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SIX PORTRAITS

LONDON AND GLASGOW

COLLINS' CLEAR-TYPE PRESS

PREFACE

IN the Educational World old methods are fast giving place to new. History is no longer a string of dates, or Geography the repetition of a number of names without life or meaning. That scholars learn much more readily if they feel an interest in the subject is a truism, and one great aim which the earnest Teacher always has in view is the arousing of such an interest.

In this series of little books the Publishers have attempted to correlate Reading, History, Geography, and General Knowledge.

The biographies here presented do not profess to be biographies in the ordinary sense. Each life selected is a convenient peg on which to hang many things.

Thus in reading the sketch of Livingstone's life—*Nineteenth Century Explorers*—the scholar will pick up unconsciously a good deal of the Geography of South Africa, including physical features, climate, agriculture, races of people and their manners and customs. M'Douall Stuart's biography will afford similar information concerning Australia, Sir William Butler's concerning Canada, Mrs Bishop's concerning the Far East, and so on.

The Old Voyageurs will trace by means of the biographies of famous Sailors the advance of geographical discovery, the state of Europe from the Middle Ages, and the gradual progress of Trade and Commerce.

Other books in the series will afford opportunity for treating of the habits and customs of our own people at various stages in our history, and will give glimpses into the modes of life of other nations.

While avoiding everything that is dry, the Publishers hope to include nothing but what is educative.

To enhance the value of the series, each book will contain Two Coloured Illustrations, and, wherever possible, a Portrait of each person whose career is set forth. In some cases Pictures or Views will be substituted for Portraits.

The whole series will be issued under the general editorship of Herbert Hayens, while every writer is, or has been, a practical teacher, thoroughly acquainted with present-day scholastic requirements.

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I. Sir Ernest Henry Shackleton

No study is more entrancing than that of the lives of great travellers and explorers. In fancy we accompany them in their arduous advance over desert waste or through trackless forest; we pant with them under the blinding glare of the tropical sun, or shiver with them in the biting cold of the frigid zones; our pulses quicken as they tell us of their perilous march through the lands of hostile tribes or fever-haunted swamps infested with dangerous beasts or reptiles; their account of hairbreadth escapes from death in many awful forms, of innumerable disasters, and dreadful days of thirst or cold or hunger appeals to our imagination or pity; we marvel at the grit and steadfastness which would not allow them to turn back, but drove them ever onward.

No one can read the tale of such a struggle without being the better for it; and it is chiefly because of this uplifting of heart and mind to a higher plane by the contemplation of a noble aim nobly achieved, that stories of the world's explorers have taken high rank in the

estimation of generation after generation of readers.

There is a glamour, a seductiveness, about the unknown that constantly draws the heart of man. The fairy tales of our childhood owed their chief charm to the fact that one never knew exactly what was going to happen, or what strange city or country the hero of the tale might have to enter in pursuit of the object of his journey.

Tales of travel are, to the general reader, fairy tales of a larger growth. It is the glamour of the unexpected that holds us, the mystery of what has yet to be unveiled that enchains us.

In Shakespeare's wonderful play, *Othello*, the poet makes the Moor tell how he won the heart of Desdemona by his tales of 'moving accidents by flood and field,' his stories of 'antres vast, and deserts idle, rough quarries, rocks, and hills whose heads touch heaven,' 'of the Cannibals that each other eat, the Anthropophagi, and men whose heads do grow beneath their shoulders'; and in doing so he shows how careful a student he must have been of the hearts and emotions of his fellow-mortals.

The desire of mankind to know all that is to be known about its revolving home will never be satisfied so long as there is one spot on the earth's surface to which no traveller has

attained—upon which the foot of the explorer has not trodden.

But not as in the days of old do men set out to visit the strange places of this world of ours. No more does a mere description of the surface of the land and of its inhabitants content the waiting public. Explorers must now be highly-trained scientists; they are required to bring back with them solid additions to the knowledge of the region they traverse—its vegetation, its birds and beasts, the nature of its rocks, and the character of its climate. They bring not back with them the gold and jewels which figured so largely in the imaginations of the earlier discoverers, but collections of fossils and insects, of dried plants and geological specimens.

‘But,’ you may say, ‘there are now few places left to explore; little mystery remains to lure men to undergo privation and discomfort in tiresome wanderings among unattractive solitudes or in steamy tropical jungles.’

It is astonishing, however, what a very large extent of the earth’s surface is practically unknown. In spite of recent discoveries, a big district in West Africa remains to be explored—all that vast region of the Sahara lying to the south of Algeria; while the heart of Africa is still a land of unsolved mystery, as is much of the country to the south-east of Abyssinia.

Whether the interior of Arabia is desert or fertile land no one knows exactly—the religious fanaticism of the people aiding the inhospitable coastal region in repelling the explorer's advance.

Tibet continues to a very great extent an unknown land; her physical features as shown on the map are more often than not the merest guesswork. Southern China and Indo-China hold out tempting problems to men who will listen to their siren voices; and the interior of many East Indian Islands awaits the foot of the intrepid searcher into things hidden.

Australia has been crossed from east to west and from north to south, but the nature of much of the interior of the island-continent is matter of surmise only.

Across the Pacific and over the vast bare shoulders of the Andes, a trackless forest region surrounds the head-waters of the mighty South American rivers. Here, the early adventurers believed, lay the golden city of El Dorado—and here it may be still, for all we know; for no traveller of European race has ever forced his way into the gloomy recesses of the primeval woodland. Both North and South America contain thousands of square miles of land about which little is known with certainty, though additions to our knowledge are every year being made.

Away in the frozen north, notwithstanding the exertions of a long train of explorers of many nationalities throughout several centuries, a tract of sea and land, big enough to make a dozen Englands, remains to be explored and mapped; while round the opposite pole is a mighty area, at least three times as great, about which our knowledge is woefully scanty.

If you look at a map of the world you will see that by far the larger portion of the land-surface of the globe lies north of the equator. The bulk of Europe, Asia, North America, and a large section of Africa lie to the northward of the Tropic of Cancer; but the tapering extremities of South America and Africa, with New Zealand and about two-thirds of Australia, are the only great land-masses lying to the south of the Tropic of Capricorn—with the exception of the vaguely outlined continent of Antarctica.

For centuries this mysterious southern land called to the adventurous spirit of the sea-captains of Portugal, Holland, and France. It was at one time believed that Tierra del Fuego was simply a northern continuation of it. Time after time its rugged coasts were seen by the mariners of ships driven south by adverse winds; and a tradition arose that it was a fertile and densely-populated country. So firmly was this belief planted in the minds of Europeans that

in 1738 two French ships were sent to discover it, and if possible to take possession of it for the King of France.

Bouvet, the commander of the expedition, after cruising about amongst vast and terrifying icebergs, at last sighted a mountainous land, snow-covered on the heights, but apparently well wooded on the lower slopes. A glance at any good map will show the Bouvet Islands—for islands they were, and not by any means part of the great southern land. The very woods have proved to be merely huge tussocks of spiky grass.

Bouvet's account of the grim ice guardians seems to have dispelled the illusion of a desirable territory in the Antarctic; and for nearly half a century no keel ploughed the vast wastes of the stormy southern sea. Then came the stirring times towards the end of the eighteenth century, when such men as Captain Cook were sent out in command of carefully-equipped expeditions to add to the sum of geographical knowledge.

Captain Cook's was the first expedition to cross the Antarctic Circle and to catch a glimpse of one of the ice-barriers which Nature seems to have erected to prevent man's advance by ship towards the South Pole. But before reaching this point Cook's ship had been forced at

imminent risk through tossing and grinding pack-ice, and between flat-topped icebergs.

This voyage proved that no such continent south of the great oceans existed, as had formerly been believed. Cook even failed to find Kerguelen Island, that dreary land nearly fifteen hundred square miles in area, discovered a few years before by a French explorer, who had spoken of its fogs and snow, and of the volcanic activity which had smothered and destroyed its ancient forests. Yet this island, cold, bleak, and uninviting, lies no farther south of the equator than the Channel Islands lie to the north!

A second time the intrepid English navigator turned his prow to the south, reaching a point $71^{\circ} 10'$ South—about as far south of the equator as the North Cape in Norway is north of it. Many a long year passed before any one got nearer than this point to the South Pole.

Cook speaks in his journal of lofty chains of mountains, ice-covered, stretching away southward from the shore beyond which he could not penetrate. In a third voyage, Cook crossed the Pacific from Tierra del Fuego to the big Antarctic island of South Georgia, discovered many years before by a Portuguese sailor, and, after sighting the mountainous South Sandwich Islands, returned to England, bringing with him

much definite knowledge of the Antarctic seas and the ice-covered lands washed by their stormy waters.

The European wars at the end of the eighteenth century interfered with the work of exploration; but several important discoveries were made by the sealers and whalers who had begun to frequent the southern seas in pursuit of their calling. A whaling vessel sent out by the Messrs. Enderby of London rediscovered the Bouvet Islands; and another, under Captain William Smith, discovered or rediscovered the South Shetlands, south of Cape Horn. British and American sealers landed on Palmer Land and Trinity Land, still farther to the south, and the South Orkneys, farther to the east, were discovered by Captain George Powell.

During the years 1820 and 1821 two Russian warships under Bellingshausen sailed round more than two-thirds of the Antarctic ice-pack, discovering many islands, besides completing and mapping accurately the discoveries of other navigators. Amongst other interesting discoveries was that of an active volcano on one of the islands. Like Cook, Bellingshausen was stopped in his southward progress by a mighty ice-barrier, varying in height from seventy to two hundred feet.

In 1822 Captain James Weddell, whilst on a sealing expedition, broke through the ice-pack



Photo: Thomson, London.

P.T.

Sir Ernest Henry Shackleton.

into an ice-clear sea, and held a southerly course to latitude $74^{\circ} 15'$ South, or three degrees farther than Cook's farthest. Then scurvy, that worst enemy of Arctic and Antarctic explorers, broke out among his crew and compelled him to return.

A British scientific expedition under Captain Foster was followed two years later by another sent out by the Messrs Enderby. Captain Biscoe, the commander of this expedition, with a brig and cutter, made his way eastward along the face of the great ice-barrier, and discovered the large island of Enderby Land. Farther to the east he twice sighted land, and was then forced to turn north to Tasmania that his crew might recruit. In the spring he resumed his eastward route, landing on Palmer Land, and so completing his voyage round Antarctica before returning to England.

Another expedition despatched by the same firm under Captain John Balleny discovered the islands which now bear his name, one of them being a volcanic peak in active eruption.

In the middle of the nineteenth century expeditions were sent out by Britain, America, and France under Ross, Wilkes, and D'Urville respectively. The French expedition accomplished little, nor were the results of the American expedition very important; but the British expedition,

under so experienced an Arctic explorer as Sir James Clark Ross, who had himself discovered the North Magnetic Pole, was one of the most fruitful that had so far penetrated into the icy solitudes of the South.

The French and American captains each sighted the land now known as Wilkes Land, which has a probable coast of seventeen hundred miles; but their explorations went no farther.

The British expedition was the last of the three to start, but it was splendidly equipped, and its two ships, the *Erebus* and *Terror*, were manned by picked crews. Leaving Tasmania in November 1840, Ross sailed due south along the one hundred and seventieth meridian, pushing through the ice-pack to the open sea beyond. A few days later he sighted a lofty range of mountains with towering peaks, some at least ten thousand feet in height. They were, of course, covered with snow, and down the valleys between them huge glaciers pushed their slow way to the sea. Holding to his southward course, Ross sighted the huge peak of Mount Melbourne, as high as Mont Blanc, and the loftiest yet discovered in Antarctica.

Farther and farther south he pushed, till he was stopped by a perpendicular ice precipice, stretching from west to east across his course. Before reaching this ice-barrier he had sighted

two volcanoes, which he named after his ships, Mount Erebus and Mount Terror, one of which was in active eruption. Of this ice-barrier and of Mount Erebus you will hear again.

Ross reached a latitude of $78^{\circ} 41'$ South on this voyage, but did not succeed in locating the South Magnetic Pole. The disheartening discovery was made that this southern land was entirely devoid of vegetation, and so supported no land animals—though oceanic birds, such as the albatross, the penguin, and the petrel abounded, whilst seals and whales disported themselves in the icy waters.

After refitting at Hobart Town, Ross started again for the polar regions in November, 1841, and succeeded, after several narrow escapes from disaster, in reaching latitude $78^{\circ} 10'$ South. Wintering in the Falkland Islands, he sailed south again on his third voyage of exploration, discovering and naming islands, mountains, and openings south of the South Shetland Islands.

For more than twenty years after the return of the vessels commanded by Ross, nothing of importance was attempted in Antarctic exploration; but in 1874 the British warship, *Challenger*, was sent out under Sir George Nares, who, like Ross, had already made a name in Arctic exploration. The *Challenger* remained in Antarctic

waters for a few weeks only, and discovered no new land; but her staff of trained scientists brought back to England most valuable records, whilst the artists on board succeeded in depicting most wonderfully the mighty plateau-like icebergs, sometimes more than one hundred square miles in area, which are detached from the glaciers of the icy southern lands.

The first human beings to pass a winter within the Antarctic Circle were Captain Adrien de Gerlache and the crew of the *Belgica*, sent out by the Belgian Government; and a year later (1878) Borchgrevink, a young Norwegian naturalist, who had already made one Antarctic voyage, succeeded in wintering at the foot of Cape Adare in Victoria Land, and in journeying as far south as $78^{\circ} 50'$, thus beating the British record.

Since that date several very important expeditions have brought back more and more detailed descriptions of this inhospitable region, approaching ever nearer and nearer to the South Pole. Of these the most important were the British National Antarctic Expedition in the *Discovery*, under Captain R. F. Scott, which spent two years—January 1902 to February 1904—in the neighbourhood of Victoria Land, and discovered King Edward VII. Land; the German Antarctic Expedition in the *Gauss*, which

reached the pack-ice in February, 1902, discovering Kaiser Wilhelm II. Land; the Swedish Expedition in the ship *Antarctic*, which explored the lands south of Cape Horn, the vessel being lost in 1903, though the crew was rescued; and the Scottish National Antarctic Expedition, which left Scotland in 1902 to explore the Weddell Sea.

The most interesting of these expeditions was that in the *Discovery*, a vessel built at Dundee specially for the work of pushing through pack-ice and resisting ice pressure.

Leaving the ship, Captain Scott, accompanied by Lieutenant Ernest Henry Shackleton and Dr. E. A. Wilson, succeeded in reaching with sledges the latitude of $82^{\circ} 17'$ South, the nearest point to the South Pole till then attained by men of any nation.

The experience gained by Lieutenant Shackleton in this expedition was of immense value to him in his attempt to reach the South Pole in the southern summer of 1908-9, and prevented his making those mistakes which have wrecked many a similar venture.

Lieutenant Shackleton is the son of a doctor of medicine, and was born at Kildea, in County Kildare, on the 15th of February 1874. He is therefore by birth an Irishman, though, since he left Ireland when he was only eleven years of age, and was educated at Sydenham and at

Dulwich College, he may be said to be English by adoption and training.

His father wished him to become a doctor, but the boy's own inclination was towards a seafaring life; so at the age of sixteen he sailed as an apprentice on one of the White Star liners. His first voyage was pretty full of adventure. He narrowly escaped serious injury during a storm off Cape Horn, and was in imminent risk of being despatched by an armed mob in Chili.

After serving the necessary number of years in the vessels of the White Star Line, Shackleton joined the Welsh Shire Line and afterwards the Union-Castle Line. Entering the Royal Naval Reserve he became a lieutenant, undergoing the usual naval training.

He had from boyhood been fond of poetry, not only reading all upon which he could lay his hands, but also composing some very creditable verse.

While he was an officer of the Union-Castle Line, the Boer War broke out; and Shackleton's was one of the many vessels carrying troops and passengers between Southampton and Cape Town. At this time he was responsible for the production of a ship's newspaper, and he also produced and published his first book, *O.H.M.S.*, dealing with life on a troopship.

When the British National Antarctic Expedition was decided upon and organised, extreme difficulty was experienced in choosing its members from the large numbers of naval men, scientists, and sportsmen who wished to be included ; and it was only by steady persistence and constant asking that Shackleton at last obtained permission to join it as fourth officer. In this position he showed himself capable, painstaking, and hardworking, besides assisting most materially in keeping up the spirits of officers and men by his contributions to the ship's newspaper, *The South Polar Times*, of which he was editor.

He was selected along with Dr Wilson to accompany Captain Scott on his southward dash overland towards the Pole—an expedition which was checked by the giving out of the sledge-dogs when the latitude of $82^{\circ} 17'$ had been reached.

On the return journey Shackleton broke down, reaching the winter-quarters with difficulty, and being obliged to return in the relief ship before the rest of the party.

Failing to obtain, as he desired, a berth in the British Navy, Shackleton turned once more to literature, becoming the sub-editor of a monthly magazine. In 1904 he was appointed Secretary of the Royal Scottish Geographical Society, and became known as a public lecturer. About this

time he married and took a house in Edinburgh, so that it seemed as if his days of adventure and exploration were ended. He even offered himself as Unionist candidate for Dundee, but was not elected. Shortly afterwards he accepted a post under a Clyde shipbuilding firm.

All this time, however, he had been nursing the project of once more visiting the Antarctic and adding to the knowledge of that uninviting territory; and although funds for the equipment of the expedition were difficult to obtain, he succeeded in rousing sufficient public interest by February 1907 to commence work in real earnest by equipping a small sealing-vessel, the *Nimrod*, in which he started from Torquay in August of the same year.

He was determined not only to have the best possible equipment, but also companions of the right kind. The selection of the members who would have to winter with him while the *Nimrod* returned to New Zealand was a task of anxiety and difficulty, as the inclusion of one incompetent, unsound, or sour-tempered person would have endangered the success of the whole expedition. Including himself, the shore-party consisted of fifteen men, each one chosen for his special knowledge of some department of science or polar exploration work.



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'They discovered a way up a glacier.'

The stores were selected by Shackleton himself, and packed under his supervision, for he knew how important it is to a polar expedition that the stores should contain everything that will be needed. The history of many exploring expeditions has shown how often partial or even total failure has resulted from want of forethought or proper supervision during the equipment. Nothing essential must be left out ; and all the stores must be of the best possible quality.

Since the *Nimrod* was not to remain in the ice during the winter, it was necessary that the shore-party should be provided with a roomy and substantial hut for winter-quarters. This was made of wood, the various sections being marked, and was covered with cork and felt. It was thirty-three feet long, nineteen feet in width, and twelve feet high—none too large, you will say, for fifteen men.

The food stores included plenty of sugar, jam, and treacle, besides flour, tinned meat, and fish, and dried and bottled fruit. The explorers expected to supplement this with the flesh of the seals abounding off the coast ; while, for the sledging trips they hoped to make, they took a supply of 'pemmican'—pounded dried beef mixed with fat.

Thick woollen clothing was provided, besides

wind and rainproof clothes made in London. For marching over the ice, Lapland boots of reindeer were purchased, big enough to allow for several pairs of socks and a lining of soft dry grass.

Dogs having been proved unsatisfactory as draught-animals during the *Discovery* expedition, Shackleton resolved not to trust to them alone, but to take several Manchurian ponies, possibly the hardiest of all domesticated animals. Ten of these ponies were embarked at Lyttleton, in New Zealand, to which town they had been brought from Manchuria to be broken to harness; but only eight remained when winter-quarters had been finally established, one having been lost by injury during the voyage, and the other during the landing of the stores.* The number available for the southward dash was afterwards reduced to four only, the others dying during the winter through eating sand.

Before the *Nimrod* left England, she was inspected at Cowes by the late King Edward and Queen Alexandra who were keenly interested in the expedition. Queen Alexandra gave Lieutenant Shackleton a Union Jack, which was set up within a hundred miles of the South Pole.

After a splendid send-off from Port Lyttleton by over thirty thousand people, the *Nimrod* set out for the Antarctic, a New Zealand steamer

towing her to the Antarctic Circle in order to save her coal, and leaving her fifteen hundred miles south of the Ocean Dominion.

Lieutenant Shackleton had intended to land on King Edward VII. Land, discovered by the preceding expedition, but was prevented from doing so by the pack-ice. He set up his hut, therefore, on the shore of M'Murdo Sound, close to the active volcano of Mount Erebus.

The landing of the stores was a work of extreme difficulty, owing to the treacherous nature of the ice, and the occurrence of blizzards, or furious storms of wind and snow—and this during the Antarctic summer! On one occasion a three days' blizzard covered the stores which had been landed with five feet of ice formed from the salt spray driven inland by the terrific force of the wind. Some of these stores were never recovered, while the rest had to be broken out with crowbars and picks.

The *Nimrod* sailed away on the 22nd of February, and the little colony at once set to work, not only preparing for the long dark winter, but also making valuable scientific researches. The hut was divided into living-room and sleeping-quarters, the canvas screens dividing the different compartments being humorously decorated by some of the men. One of the most effective of these decorations was a picture of

a bright fire burning in an English fireplace, with a mantelpiece on which stood a vase of flowers.

One of the first expeditions undertaken from the settlement was the ascent of Mount Erebus. Six of the party set off to accomplish this difficult task, carrying provisions for ten days. The ascent over the perilous snow-slopes tried them to the uttermost; while at night they had to lie out on the open mountain side with the temperature sometimes as low as twenty degrees below zero, and with no protection except their thick sleeping-bags of reindeer skin, under their light tents.

The tremendous force of the blizzards by which they were assailed may be judged from the fact that two of the party, Sir Philip Brocklehurst and Lieutenant Adams, on emerging one morning from the three-man sleeping-bag, were hurled down a ravine, while the third man, Dr. Marshall, who was left in the bag, had hard work to save himself and it from following. Brocklehurst and Adams managed to get back to its shelter, numb with cold and all but exhausted.

Day after day, however, they toiled on, mounting ever higher, till the old crater was reached. Here it was found that Brocklehurst's toes were severely frost-bitten, and considerable time and exertion had to be spent in bringing back the circulation.

The next day all six men succeeded in climbing to the top of the active crater, a great cup nine hundred feet deep and half a mile in width, from the bottom of which came clouds of steam and the sound of dull explosions.

Getting back to the winter-quarters promised at first to be much less arduous, as in one place five thousand feet were covered by glissading; but the destruction by the blizzards of the depôt they had made on their ascent left them far from their temporary home, without food or stores of any kind. By dint of leaving their sledge and camp-tackle and making a desperate forced march they managed to reach the winter-quarters, completely worn-out and ravenously hungry, but without serious mishap.

One of the most valuable features of the expedition was the splendid photographic work carried out by Sir Philip Brocklehurst. These photographs, together with the fine pictures of Antarctic scenery drawn by Mr G. E. Marston, another member of the expedition, show, as no mere description could ever do, the nature of the region and the enormous difficulties tackled and overcome by the resolute band of investigators.

The long Antarctic winter, during which the sun was not seen for over four months, passed more quickly and pleasantly than might have been thought possible. Each man had his own work

to do ; many, being specialists in some branch or other of physical science, were kept busy with observations and investigations—all were united in working for the success of the expedition. Such games as hockey and football were played when the light allowed, and indoor games of cards and dominoes helped to while away the hours of darkness.

The first book ever produced within the Antarctic Circle, *The Aurora Australis*, was written, printed, and illustrated within the hut—a remarkable achievement. The wooden backs of the copies of this remarkable volume were fashioned out of packing-cases!

As winter wore on toward spring, the thoughts of all turned to the two main objects of the expedition—the location of the South Magnetic Pole, and the reaching of the geographical South Pole of the earth.

The last weeks of winter were occupied in getting the ponies and dogs into condition, and in testing the motor-car which had been brought out in the *Nimrod*. This vehicle was found very useful on the level surface of the sea-ice, but it would not travel over the soft snow across which the party had to journey southward over the ice-barrier.

On August 12th, in order to test the conditions under which they would have to make their final

journey, Shackleton set off with the geologist, Professor David, and Armytage, to whom the care of the ponies had been entrusted, on an eight days' tramp to the south, encountering one fierce blizzard and enduring a temperature fifty-six degrees below zero.

This was merely preparatory work; but towards the end of the next month Lieutenant Shackleton again set out to the south, accompanied by some of the other members of the expedition, pulling a load of equipment and provisions after them on sledges. His object now was to establish a dépôt of supplies for the intended dash for the South Pole.

During the march, blizzards of such severity were encountered that the party at times took refuge in their sleeping-bags till the strength of the wind slackened. After covering a distance of about a hundred and twenty miles, the dépôt was laid, and a return made to the winter-quarters, which were reached about the middle of October.

While Shackleton had been away, the two scientists, Professor David and Douglas Mawson, together with Dr Mackay, had gone northward through Victoria Land to locate the South Magnetic Pole.

We have already seen that Ross failed to locate this interesting point on the world's surface,

where, as at the North Magnetic Pole, the magnetised needle stands erect. This was a very keen disappointment to him. He had already located the North Magnetic Pole, and had on board the *Erebus* the flag which he had planted on it.

The position of the Magnetic Pole had been calculated from observations taken on board the *Discovery*; and the party led by Professor David, depending upon this calculation, proceeded along the coast, over the frozen sea, to a point 75' south of the equator. Here they turned inland, advancing over a glacier seamed by frequent deep crevasses. The same strong, keen southerly wind which was proving a grim foe to Lieutenant Shackleton's party, now on its way to the geographical South Pole, annoyed and hindered Professor David and his companions.

To add to the other difficulties, the toilsome way led upward, till, at a height of about seven thousand feet, the comparatively level surface of a plateau was reached. Across this the scientists struggled on shortened rations, but had at last the happiness of finding that for which they sought, and marking down its position upon their chart. The exact position of the Magnetic Poles is a very important matter—not only to scientists, but also to those who go down to the sea in ships.

The return journey to the seashore was arduous and hazardous ; and when the explorers reached it they found to their dismay that the sea-ice was all broken up—for it was now the beginning of February, the warmest month of the southern year. It was impossible for them to reach the winter-quarters over the cliffs and glaciers of Victoria Land, and death stared them in the face, for Antarctic lands do not teem with life like those of the frozen north, and their provisions were exhausted.

Lieutenant Shackleton's forethought, however, proved their salvation. The *Nimrod*, in accordance with her commander's instructions, was cruising along the coast in search of them, and picked them up in time.

Long before this the southward dash had commenced, Lieutenant Shackleton, Dr Marshall, Lieutenant Adams, and Frank Wild setting out with the four remaining ponies on October 28, 1908. They took with them all the instruments necessary for determining their course, registering temperature and height above sea-level, and estimating levels and distances. They had sledge-meters to indicate the distance travelled, and carried all the provisions and equipment needed for ninety-one days.

A supporting party travelled fifty miles with them and then returned ; and the four resolute

men set their faces to the south, and plodded on day after day through blinding snowstorms and over dangerous crevasses. One of these treacherous places all but caused a fatal accident, one of the party and the pony he was leading being rescued from it with difficulty.

Day followed day as they pushed on farther to the south. They reached the depot prepared in their former journey, removed part of the stores and went on. The cold was intense, and the blizzards tried them almost beyond endurance; for the wind blew ever from the south, directly against them.

As the store of pony-food gave out, the animals were killed one by one, their flesh forming a source of fresh meat, without which the explorers could not have got nearly so far as they did. Some of the meat was left in depot at different points in their outward march, so that they might recover it on their return, the intense cold preserving it perfectly.

They had been tramping on for nearly a month when they sighted a range of mountains which seemed to bar all further advance; but after much trouble and the loss of much valuable time they discovered a way up a glacier—a way full of pitfalls. Their last pony fell into a crevasse and was never seen again; and Wild was almost dragged down with him. Had the harness by

which the sledge was attached to the unfortunate pony not broken, their sleeping-bags would have been lost also; and without them the whole party would have perished in the biting cold.

This disaster did not daunt Shackleton and his companions, though they had now to pull the remaining two sledges themselves. They were reduced to chewing pony-maize, but struggled on over perhaps the most awful road men have ever travelled.

At last, on Christmas Day, they reached the surface of the plateau, ten thousand feet above sea-level. They were now less than three hundred miles from the South Pole, and, hoping to accomplish their purpose, they reduced the daily allowance of food in order to husband their store. Fate, however, seemed to be against them; a fearful blizzard kept them huddled up for warmth for three days, while their scanty stock of provisions sank lower and lower.

On January 9th, after planting Queen Alexandra's flag in latitude $88^{\circ} 23'$ South, they were compelled to turn back. They had now to retrace their steps to the winter-quarters, a distance of over eight hundred miles, before complete exhaustion overtook them.

There is not room in this short sketch to tell in detail all their adventures and hardships during

enough to find their depots; though sometimes between them they were reduced to the last extremity.

The strong southerly wind was now rather a help than a hindrance, enabling them to travel quickly down the glacier by rigging a sail to their sledge. But exposure and want of food were beginning to tell, and all suffered from illness. On one occasion they were without food for thirty hours, stumbling on doggedly—for to rest was to die. Even in their sleeping-bags after reaching the depot, they could not obtain warmth when they lay down on the snow.

As a crowning misfortune, Dr Marshall broke down altogether, and Shackleton and Wild were obliged to hurry on for help, leaving him with Lieutenant Adams. They reached the ship in safety, and Shackleton returned with food and help to Marshall and Adams, bringing them safely aboard on March 4th.

In one hundred and twenty-six days the four men had travelled a distance of over seventeen hundred miles, and had got nearer the South Pole than any other explorer.

This journey undertaken and carried out by men of British race, ranks among the most marvellous in the annals of the world, and could have been accomplished successfully only by an

exercise of pluck, determination, and endurance far from common.

Whoever may hereafter attain to the South Pole, or even cross Antarctica, it is undeniable that Lieutenant Shackleton has shown the way—he is the pathfinder. He has made it clear that, given favourable conditions and abundant supplies, a resolute party can, in spite of the inclement climate and the danger of the route, traverse the icy southern tableland to the Pole itself. Shortage of food alone prevented Shackleton and his companions from reaching the goal for which they were striving.

On returning home Lieutenant Shackleton was knighted by King Edward, and granted twenty thousand pounds by the British Government to help in defraying the expenses of his expedition. The rest of the money he raised by lecturing and writing, being in the meanwhile kept busy replying to the many messages of congratulation upon his success which reached him from all quarters of the globe, and in receiving honours from learned societies interested in Antarctic research.

II. Lieutenant Boyd Alexander

IN the last section we heard something of the hardships and miseries which explorers of the icy regions of the Antarctic have to undergo in order to add to the sum of human knowledge of those inhospitable lands; and it will be interesting and instructive to examine, by way of contrast, the conditions of exploration in the dank, sweltering forests and on the burning desert plains of Africa.

The 'Dark Continent,' as it is not unfitly named even now, was known to the ancients as 'Libya'; and it is a remarkable fact that the Greek historian Herodotus speaks of it as surrounded by water except at the Isthmus of Suez. This seems to confirm the ancient tradition that it had been circumnavigated by the Phoenicians.

The name 'Africa' was applied by the Romans to their own Carthaginian province, and has since been made to comprehend the whole continent. There is little doubt that the Carthaginians knew a great deal about the interior of the continent south of their own city. At the height of their power they obtained from these

southern lands elephants, gold, slaves, and ivory. Some of the Roman leaders also made long journeys into the interior, penetrating probably as far as Lake Chad and the Niger.

Long before their time, however, Africa was the seat of world-renowned empires, and of one of the oldest civilisations of which traces are left at the present day. It is remarkable that the two rich river-valleys of the Nile and the Euphrates should have been the homes of races far advanced in culture and education when most of the human race was sunk in ignorance and barbarism.

The mountain fastnesses of Abyssinia were occupied at a very early date by an intelligent race under a settled form of government; while in later days the Arab power extended its sway across the whole of the northern portion of the continent, and even into Europe, holding the southern portion of Spain for centuries under a cultured and orderly control.

Signs are not wanting that while Europe has progressed mightily in education, art, and commerce, Africa has gone back steadily. Morocco and Abyssinia alone can be said to have retained an independent native government; the rest of the continent is either directly under European management, or is mapped out by consent of the European nations into 'spheres of influence.

One reason for the lack of certain knowledge of the interior of Africa is the compactness of the land mass. No such means of obtaining access to the heart of the continent exist as the splendid inland seas of Europe, or the mighty estuaries of North and South America. The broad desert region behind the Mediterranean countries has always formed a formidable barrier to intercourse with the tropical lands to the south.

It was natural, under such conditions, that exploration should begin with the examination of the coasts and attempts to sail round the continent; and, during the fourteenth and fifteenth centuries, Portuguese seamen ventured farther and farther south, discovering the islands lying in the Atlantic off the western coast, and setting up a valuable trade with the negro inhabitants of West Africa.

The rounding of the southern end of the continent by Diaz and Da Gama was followed by an exploration of the eastern coast; and shortly after the beginning of the sixteenth century the Portuguese navigators had sailed as far as the entrance to the Red Sea.

The Portuguese still hold vast tracks of Africa; but from the very first their object was to wring from their possessions the utmost possible profit with the minimum of outlay; so that even to-day their colonies are unprogressive, roadless, and

without important industries. The settlers, if such they could be called, kept mainly to the coast, and little information concerning the interior has come from Portuguese sources.

The real beginning of systematic exploration was the work of the 'African Association,' formed in London in 1788. It must not be forgotten, however, that the Scotsman, James Bruce, had shortly before this time ventured into Abyssinia, and discovered the sources of the Blue Nile.

The history of African exploration is a subject too vast even to be summarised in a short sketch; and we must confine our attention more especially to those expeditions which traversed and made known various sections of the wide district between the Niger and the Nile, across which travelled, during the three years 1904, 1905, and 1906, Lieutenant Boyd Alexander, whose murder by natives near Abeshr in the French Soudan, was so recently reported.

Herodotus, the Greek historian, had spoken of a river called the Niger, flowing from the west of Africa into the interior; and he was of opinion that its waters flowed into the valley of the Nile and swelled the volume of that river. This opinion was held by some geographers as late as the eighteenth century, though many believed the story of the existence of the river to be a myth.

Determined to solve the problem, the African Association sent out several intrepid travellers into this mysterious region, concerning the people and products of which less was then known than had been the case in early Roman times.

One of the earliest of these explorers, John Ledyard, intended to advance by way of Egypt, but died at Cairo, on the very threshold of his enterprise. Mr Lucas followed, traversing the desert five days' journey from Tripoli, and being then compelled to return.

Major Houghton was the next to sacrifice his life in the same cause. He ascended some distance up the river Gambia, but was seized by the Moors and so shockingly ill-treated by them that he died at Jarra, half-way between the coast and Lake Dibbie.

This, however, remained unknown until it was ascertained by Mungo Park, whose name is, without doubt, one of the most famous in the annals of African exploration. To Mungo Park belongs the honour of having discovered the Niger. Before his first journey it was believed that the river Senegal, which flows into the Atlantic not far from the mouth of the Gambia, passed in its upper course the ancient trading-centre of Timbuktu. Proceeding from the west coast, Mungo Park discovered a broad stream flowing to the east. Following this stream, the

name of which was the Joliba, he found that it passed the city of Timbuktu—but, since its course was eastward, it was quite evident to him that it was not the Senegal. Realising that he had come upon the river mentioned by the ancient writers, he gave it once again the name by which they had known it—the Niger. After spending many months in exploring the countries through which the river flows, he returned to England in 1797 with his wonderful news.

In 1805 he set off once more, determined this time to follow the course of the Joliba or Niger to its mouth. After many hardships and dangers he succeeded in descending as far as Boussa, where he was set upon by the natives and killed.

The Niger was traced from Boussa to the Bight of Biafra by the brothers John and Richard Lander in 1830; but eight years before that date an expedition was despatched by the British Government to find out further details concerning the course of the river. The expedition consisted of Lieutenant Clapperton, and the naturalist, Dr Oudney. When they started from Tripoli they were joined by Major Denham, who had been sent on the same errand by the African Association. They crossed the Great Desert and reached the wide lagoon known as Lake Chad in the State of Bornu, which they were the first

white men to visit. Dr Oudney died of consumption at Murmur, a town on the borders of the Houssa country ; but Clapperton and Denham reached the coast after having traversed a region seven hundred miles from east to west in the heart of Africa.

Towards the end of the same year Clapperton again ventured into the interior, starting this time at Benin, and being accompanied by Dr Morrison, Captain Pearce, and Richard Lander. Morrison and Pearce died in less than a month ; but Clapperton managed to reach Sokoto, the town which had marked the southward limit of his former journey. He was thus the first white man who had traversed the whole route from Tripoli on the Mediterranean coast to Benin on the Gulf of Guinea. His reception by the Sultan of Sokoto was, however, far from friendly ; and this weighed so on his spirits that he fell ill of fever and died on the 13th of April, 1827.

During this time Major Loring succeeded in reaching Timbuktu from Tripoli. At Ghadames he was attacked by the natives and left for dead, being wounded in twenty-four places ; but he recovered sufficiently to complete his journey. Going on from Timbuktu to Segou, up the Niger, he was murdered by his Moorish guide.

The young French traveller Caillié succeeded shortly after this in reaching Timbuktu from

the western coast, afterwards crossing the Sahara and Morocco to the Mediterranean.

In 1849 Lord Palmerston despatched an expedition to explore the Soudan and to find outlets for British commerce. Mr Richardson was the head of the expedition, and with him were two German scientific students, Dr Barth and Overweg. Richardson and Overweg added their names to the long list of those who had laid down their lives in the cause of African exploration, but Dr Barth survived, spending five years in examining and correctly mapping much of the water-system connected with Lake Chad, and following the river Benue down to its confluence with the Niger.

Dr Barth was perhaps the first traveller to make Europeans understand clearly that south of the Great Desert was a wonderfully fertile and densely populated country, extending fifteen hundred miles from east to west, and containing many tribes or nations of fairly advanced civilisation, with industries and markets. He reached London at last with a more complete account of a previously unknown or little known region of such vast extent than has probably ever been compiled by a traveller.

Vogel and Baikie followed, the latter establishing at Lokoja, at the junction of the Benue with the Niger, a British trading-station which, under

his wise and able management, rapidly increased in importance. Among other things, Dr Baikie studied the dialects spoken by many native tribes, collecting the vocabularies of no fewer than fifty, and translating portions of the Scriptures into the Hausa tongue.

Dr Nachtigal was sent in 1869 by the King of Prussia to carry presents to the Sultan of Bornu for his kindness to European travellers; and while in the country he made several valuable additions to the knowledge gained by those who had gone before him. One of his interesting discoveries was that of a large river flowing out of Lake Chad, which had till then been believed to have no outlet.

The greatest obstacle to the exploration of the whole region, and more particularly of that portion of it through which runs the Lower Niger, is fever. Many explorers have died from repeated attacks of this insidious foe; and though, as we have seen, several devoted seekers into the hidden mysteries of the Dark Continent have been put to death by the natives, Lieutenant Boyd Alexander himself among the number, the climate has been an even deadlier enemy.

In spite of this, however, when once profitable trade had been opened up by the establishment of the trading-centre of Lokoja, more and more capital was put into the enterprise; and soon

a Niger Company was formed, by which vigorous exploitation of the region about the Lower Niger was carried on, with a gradual extension of power and influence into the states lying farther north. The Company was granted a charter in 1886 as the Royal Niger Company; but the coast districts were formed into the Niger Coast Protectorate.

French and Germans now stepped in and claimed part of the territory as having been within their sphere of influence. A treaty was made with Germany in 1893, by which a frontier was fixed between British and German territory, and a similar treaty with France in 1898—though this was altered in 1904.

In the year 1900 the rights of the Royal Niger Company were transferred to the British Crown, and thus a territory four hundred thousand square miles in extent—nearly eight times the size of England—with a population of twenty-five millions of people was, under the name of Nigeria, added to the British dominions.

You have now a fairly accurate idea of the extent to which the country had been opened up when Lieutenant Boyd Alexander sailed from England on February 27, 1904, to survey part of Northern Nigeria, to explore Lake Chad, and to survey and map the river systems between the Niger and the Nile. Other minor, though still

very important, matters to be dealt with during the journey were the size and position of the lands held by the various tribes, the examination of the correct native names of places and natural objects, and the classification of the animals, birds, and reptiles.

As is now usual with exploring expeditions, the various members were chosen because of their skill in some one or other of the branches of scientific knowledge. Thus, while Lieutenant Boyd Alexander was the leader of the expedition, his brother and Mr Talbot, who accompanied him, were skilled surveyors. Another member of the party, Captain Gosling, was a competent zoologist—one, that is, who has made a special study of life in all its forms.

As may be supposed, this was by no means the first exploring expedition upon which Lieutenant Boyd Alexander had been engaged; and it will be interesting to say something of those earlier journeyings which had shown him to be possessed of qualities fitting him to take command of the important survey upon which he was about to set out.

Lieutenant Boyd Alexander was the son of a soldier, Colonel Boyd Francis Alexander, who passed with distinction through the Indian Mutiny, and took part in the suppression of the Fenian raid upon Canada in 1870, three years before the

birth of his son, who was destined to become famous in another way.

After serving for some years as a lieutenant in the 7th Battalion of the Rifle Brigade, Boyd Alexander was appointed in 1897 the leader of a scientific expedition to the Cape Verde Islands.

These islands, as you will discover from a good map of the Atlantic Ocean, lie over three hundred miles west of Cape Verde on the African coast. There are ten islands, all of volcanic origin, one of them still having an active volcano. Their shores are low and not very tempting, but the valleys that lie amongst the hills farther inland are often of striking beauty. Over one hundred thousand people live on the islands, making a living by growing and exporting fruit, coffee, and medicinal plants, making straw hats, lace and embroidery, obtaining large quantities of salt from the evaporation of sea-water, and collecting a kind of lichen from which a red dye is made.

Most of the inhabitants seem to belong to the negro race, with a few mulattoes, the half-caste descendants of Portuguese colonists; but the natives found there, when the Portuguese took possession of the islands in the latter half of the fifteenth century, were more akin to the races of Northern Africa, as was shown by their method of writing and their embalming of their dead.

One island has a fine harbour, upon which stands the well-known coaling-station of Porto Grande.

To scientists the islands offer a wide field for investigation. The formations of coral and volcanic rock, the droughts and heats and thunderstorms with which the seasons are varied, the monkeys and wild cats found in the woods, with many varieties of birds and insects, the turtles that swim in the tropical seas around the coasts, the varied species of plants and trees and flowers, to say nothing of traces of the ancient inhabitants, form material enough for the investigation of a trained band of scientists with more time at their disposal than had Lieutenant Boyd Alexander and his companions.

The results, however, were very satisfactory, adding considerably to our knowledge of these interesting islands.

Lieutenant Boyd Alexander's next expedition led him into the basin of the Zambesi, the greatest river of South Africa.

The name Zambesi means 'Great Water,' an appropriate name for the fourth river of Africa, whose length from source to sea is about two thousand miles. Those who have read the life of Dr Livingstone will know how deep an impression this river made upon him, not only because of its length, as reported to him by the

natives, but because of the power and volume of its current. He it was who gave their name to the Victoria Falls, rainbow-crowned, mist-enveloped, plunging for nearly four hundred feet into the depths of a gloomy chasm.

The railway bridge which now spans the river below the falls was not erected when Lieutenant Boyd Alexander ascended the Zambesi Valley, nor had British power extended its influence over the warlike tribes inhabiting the broad valleys of its northern tributaries.

Up one of these tributaries, the Kafue, Lieutenant Boyd Alexander proceeded, traversing the country of some very peculiar people.

In the year 1900 he saw active service in West Africa, being appointed to the Gold Coast Constabulary, and taking part in the relief of Kumasi. Kumasi, as you probably know, is the capital of Ashantiland—that country to the north of the Gold Coast, whose inhabitants have given at different times so much trouble to the authorities, interfering with trade, murdering friendly natives, and treating the British remonstrances with contempt.

The earlier wars with these people were serious affairs; but in that with which Lieutenant Boyd Alexander was connected, the troops suffered vastly more from the deadly fever of the forests and marshes than from the spears

or bullets of the enemy. The Ashanti king having been taken prisoner, the force retraced its steps to the coast—nearly half the men, and more than half the officers, having to be carried in hammocks by native bearers.

For his part in this expedition Lieutenant Boyd Alexander was presented in 1902 with a medal and clasp, and appointed to a commission in the Rifle Brigade.

We next hear of him as the leader of a scientific expedition to Fernando Po, the mountainous Spanish island lying in the Bight of Biafra, close to the West African coast. The island is about forty-four miles long by sixteen broad, and was discovered by the Portuguese in 1741. The Portuguese gave it to the Spaniards toward the end of the eighteenth century, but the British took possession of it about 1827, and held it for seventeen years. This explains the presence of English names. The largest inlet is Maidstone Bay, and the English settlement of Clarence Town stands on Point William.

The dense forests shelter numbers of birds, and one of the most valuable results of Lieutenant Boyd Alexander's expedition was the discovery of many birds of hitherto unknown species. The expedition was also successful in climbing Mount Santa Isabel, which is ten thousand feet in height.

But the expedition upon which Lieutenant Boyd

Alexander and his companions sailed in February, 1904, was much more important, and very much more arduous, than any in which he had hitherto been engaged. The thorough training which he had undergone, however, now stood him in good stead.

Since it was expected that much of the travelling would be along the waterways abounding in this part of Africa, two specially-built steel boats were taken out from England. These boats, built in sections, were each about twenty-six feet in length, and capable of carrying between them a weight of five tons, made up of trade goods and provisions, camp equipage, and the instruments needed in surveying.

The boats were put together at Lokoja, at the confluence of the Benue with the Niger; carriers were engaged, and the whole party went together two hundred miles up the Benue to Ibi. Here they separated, one party going northward towards the Murchison Range, another proceeding with the boats, yet another going through the Wase country, and a fourth, under the command of Lieutenant Boyd Alexander himself, striking across the middle of Nigeria.

Since a most important part of the work was a survey of the country, it may not be amiss to give some idea of what is meant by 'surveying.' A sufficient definition of the term

is that it means measuring and representing on paper the shape and size and height of portions of the earth's surface. This is usually done by what is termed 'triangulation.' A certain straight line—say, the distance between two points on a plain—is carefully measured; then, by means of the proper instrument, the angles between this line and imaginary lines from its extremities to some distant object, such as a prominent mountain-peak, are carefully measured.

The triangle thus formed is drawn on the surveyor's map, and the distance calculated. In this way, by means of very many measurements and calculations, an accurate map may be built up.

The different parties had agreed to meet, if possible, at the little native town of Ashaka, to reach which the boats would have to be pulled nearly four hundred miles up the Benue and one of its tributaries, while the other parties travelled mostly on foot.

Some of the country passed through was new to Europeans, and each party learned interesting details concerning the country, its peoples, its plants, animals, birds, and insects.

The Montoils, for instance, and the tribes living near them at the foot of the Murchison Range, are heathens and cannibals. They live in hamlets guarded by wooden stockades, for they have no form of tribal government—the

men of one hamlet are at war, active or suspended, with the men of every other hamlet. In spite of this, however, they possess some skill in tilling the soil, conveying the water from springs and streams by means of irrigation canals.

It was not to be expected that the expedition would escape the scourge of fever, and Captain Claud Alexander, Lieutenant Boyd Alexander's brother, was the first to be attacked. Mr Talbot took him into the town of Wase, where he himself had a sharp attack of dysentery. They refused, nevertheless, to give in, and continued their journey into the country of the Yergum, another warlike, heathen tribe, the chief of which wanted them to help him in attacking a hostile tribe living up the mountains. They, of course, refused, and went on into the Angoss country, where the soil is so impregnated with mica that the paths shine like silver. The Angoss people, like the Montoils, understand very well the art of irrigation, terracing the sides of the hills and getting satisfactory crops.

The strangest country into which they penetrated was that of the Kerri-kerri. A circular plateau with cliffs of chalk, three hundred to five hundred feet in height, rises from the level of a wide plain. Zigzag steps lead to the summit of the plateau, and here, behind a strong barricade, are the villages of the Kerri-kerri, each surrounded by its wall of matting.

Each village contains a tall granary, shaped something like a beehive, with an opening only at the top. When grain is needed, a boy runs up a ladder, drops down inside, and hands it out.

The Kerri-kerris are tall and slender, not at all like negroes in appearance; and they wear good clothes made from native cloth. They know how to work metals, and have finely-engraved sword-blades of their own manufacture.

Lieutenant Boyd Alexander, traversing the middle of Nigeria, had, in the meantime, gathered impressions of a very different country and people. He had called at the chief town of the Fulani, once a very powerful race, and had heard of the Kagorras, a race of head-hunters living in the hills to the west, and fighting with poisoned arrows, swooping down upon the people of the plain, mounted on sturdy little hill ponies.

Another strange people in this district dress only in leaves. They are the Kachias, whose women wear perhaps the most curious ornament in all the world. It is made of twisted rope covered with brass, and is about eight inches long. It is hung behind, and at a distance looks exactly like a tail. With her lips distended by means of a round piece of wood, and her body daubed with red clay, a Kachia woman is hardly prepossessing.

The Fulanis themselves are of a much higher

type. They are a shepherd race of Moorish blood, many of whom have settled down in towns and villages—though others still wander about with their flocks and herds, selling butter and milk for cowrie shells, with which they afterwards purchase what they need.

The finest race of the whole Western Soudan, however, is that of the Hausas. They are probably of mixed Arab and Negro descent, are quite black, well-formed, and strong. Their language is known throughout the Western Soudan, and has an extensive literature, consisting of history, poems, religious writings, and laws. Their children are taught to read and write. They are excellent farmers, traders, and manufacturers, while the Hausa regiments of the West African Force are noted for their bravery and soldierly qualities.

Lieutenant Boyd Alexander saw some Hausas wrestling at Ako, not far from Ashaka. The wrestlers wear only a short wrestling skirt, and wrestle in a ring formed by an excited crowd—often in the market-place. There are proper rules for the regulation of the sport, and referees are appointed to award the prize. The men shake hands before beginning, and wrestle in the Graeco-Roman fashion.

Close to Ashaka the country of Bornu may be entered. Bornu was once a powerful kingdom, reaching the height of its prosperity about the

end of the sixteenth century. Its territories are now divided among France, Great Britain, and Germany; its population is about four millions, the majority of whom are of the Mohammedan faith. The ancient capital, Birnie, is now ruinous; but the present capital, Kukawa, on the western shore of Lake Chad, has a population of sixty thousand, and does a considerable trade in cotton, ivory, indigo, ostrich feathers, skins, butter-nuts, and leather.

Shortly after the boats had been taken to pieces and carried across a barren, thirsty belt of country to one of the streams running into Lake Chad, the first great calamity occurred. Captain Claud Alexander had never really recovered from his attack of fever, and, continuing his survey through most difficult country, wading often up to the waist in swamp, he was again attacked at Maifoni, about one hundred miles south of Kukawa, and died on November 13th.

The grief of his brother, who had come to Maifoni with all speed on learning of his illness, was intense; but in less than a week he had sufficiently recovered to proceed with the work of surveying.

The next object was to find out as much as possible about Lake Chad, and, if possible, to cross it to the mouth of the Shari.

The extreme length of Lake Chad is said to

be about one hundred and thirty miles from north to south, while its breadth varies from one hundred and twenty miles to twenty miles, according to the amount of water in the shallow lagoons that form it. In the wet season it is probably nearly twenty thousand square miles in area; but in the dry season its extent is not half so great.

Its depth is reputed to be nowhere more than fifteen feet; yet hippopotami and alligators abound, with numbers of wild fowl, while herds of hartebeest and gazelle wander on its grassy shores. It is a fresh-water lake with valuable fisheries carried on by the Baduma and Kuri tribes, who live on the many large islands.

In many places the lake changes to reed-grown marshes, through which a channel has to be cut if progress is to be made. Lieutenant Alexander was anxious to get by boat to the south-east, but found it impossible to advance through the reeds. The Baduma, on the eastern or French side, used to scatter and hide whenever his boats approached them, so that he could obtain neither directions nor provisions. So short did their supplies become, that the explorers existed for nearly a week on water-rats, which they dug out of their holes.

The Baduma canoes are queer affairs. They are constructed of bundles of reeds, and are about eighteen feet long by three in width. It

takes about a month for a fisherman to build one, and they last about two years.

After spending over a month in trying to advance, the expedition returned to the western side of the lake, where provisions such as grain and dried fish were more easily procured.

Shortly after this Mr Talbot returned to England, taking back with him the result of the surveys completed up to that date, and many specimens illustrative of the life of the districts explored. Captain Gosling went on with a team of bullocks to Kusseri on the Shari, the chief feeder of the lake, and Lieutenant Alexander started once more in his boats, determined to force or find a way into the mouth of the Shari.

The difficulties of the voyage—if such it could be called—were immense. Sometimes the men struggled up to their chests in mud, pushing the boats along through the slimy mass; and every day, at nine in the morning, the ‘Harmattan’ would blow across the lake from the desert to the north, bringing a dense mist which shut out the light of the sun and enveloped the travellers in its cold, clammy folds.

Again and again with tireless pluck the travellers tried to force their way to the south-east, but always without success. They even tried cutting a passage through the reeds, and in doing so came upon the remains of the English-

built boat taken into that region by Overweg, of whom mention has been made.

At last the attempt had to be abandoned. The boats were taken to pieces and carried piece by piece to more open water, and the voyage was resumed. Only seven men now remained with Lieutenant Alexander, the remainder having deserted, or succumbed to sickness. This is not to be wondered at when one considers the almost intolerable conditions under which they lived. The sufferings of the men from the attacks of mosquitoes alone were well-nigh insupportable, some of the poor fellows sitting all night up to their necks in the water—it was quite impossible for any one to sleep.

Five months of this weary business brought them at last to the delta of the Shari, through which they proceeded to the main stream, following it through beautiful, park-like scenery.

Three interesting races were visited. The Kotokos, known as the 'giants of the Soudan,' were the first. These people are very tall and strong, and lead a most industrious life, manufacturing and dyeing cloth, fishing, and farming. The Bagirmi, living on the right bank farther up the stream, are very fierce and warlike; and both the Kotokos and the Sara tribes, who live on the left bank, are kept in a constant state of preparedness to resist their incursions.

The Bagirmi used to run off with the Sara women; and, to prevent this, the poor women make themselves terribly ugly by fixing discs of wood four inches in diameter in slits in their lips. So terrible is the distortion that they can hardly speak intelligibly. In their fields the husband walks first, making holes with his hoe, while the wife follows him, putting the seed into the holes and covering it with her foot.

Captain Gosling was now travelling with Lieutenant Alexander, and showing great prowess as a sportsman. Elephant, giraffe, buffalo, rhinoceros, harte-beest, water-buck, duiker, roan antelope, ostrich, p'g, and wild dog, all fell to his rifle.

Several weeks of this pleasant travelling and surveying brought them to the watershed between the tributaries of the Shari and those of the Congo; and the boats had again to be taken to pieces and carried across to the Tomi, a tributary of the Ubanghi, which is a feeder of the Congo.

They were getting now into the forest region, meeting with the cannibal and pagan tribes of the Banda race. This district is known as the French Congo, but has been little, if at all before, visited by Europeans. Lieutenant Alexander met with a tribe of splendid physique—the Yakomas—who wear no clothes, though they cover their bodies with painted mud.

When they passed the Belgian post of Yakoma,

still proceeding upstream against strong currents and cataracts, they had been nearly two years in the wilds. About this time they heard of the okapi, the mysterious animal which seems to be a cross between the antelope and the giraffe, and which was first discovered by Sir Harry Johnston in Uganda. The travellers were elated at the chance of securing a specimen of this rare creature, which lives upon the young shoots of a shrub some six or eight feet in height. The natives say it never lies down or sleeps, but wanders about continually. Captain Gosling, though he spent days in following the spoor, never got a chance of a shot, so shy is the animal; but at last José Lopez, Lieutenant Boyd Alexander's Portuguese servant, captured one in a pitfall.

But misfortune still dogged the expedition, and yet another of the little company was to yield his life to the fever that lurks always amongst African swamps and forests. At a place called Niangara, Captain Gosling was attacked by black-water fever. His constitution, already weakened by months of travelling in the dank atmosphere of the tropical forests through which the expedition had advanced, could not withstand the attack, and, to the acute sorrow of his companion and leader, he breathed his last in this remote part of the Dark Continent, another martyr in the cause of science.

Still onward went Lieutenant Alexander, the only Englishman left of the gallant company which, more than two years before, had started so full of hope to carry out their survey. He had yet to ascend the tributaries of the Ubanghi to the watershed separating the basin of the Congo from that of the Nile. This watershed he had to cross, reaching the river Yei, down which he might float into the Nile itself. Both feats he at last safely accomplished, passing through many interesting, and some alarming, experiences.

On one occasion, while travelling over a range of hills seamed with magnetic iron-ore, he encountered a terrific thunderstorm with hailstones as big as beans.

On another occasion he all but lost his life in the river. In lowering the boat down a rapid the men who were holding the chain relaxed for a moment, and the current took the boat against an overhanging tree, overturned it, and shot out its occupants. José Lopez swam ashore, Lieutenant Alexander saved himself by clinging to the tree, but two natives, who were also in the boat, were never seen again.

They crossed the country of the tsetse fly, the bite of which is said to cause the sleeping sickness from which there is no recovery.

Many of the native tribes encountered deserve mention. There are the Logos, for example,

whose women wear a bone ring through the upper lip and a spike through the lower, while the lower front teeth are extracted. With their hair all daubed with red clay these poor creatures must look dreadful objects.

The men of the Misa tribe are gentle and fond of beads, whilst the women are stern and masterful. The Dinkas paint their bodies white, and are warlike and unfriendly to travellers.

The explorer could not, after all, follow the Yei into the Nile, for the confluence of the rivers was choked with a weedy growth known as the 'sudd' ; so that the boats had again to be taken to pieces and carried. But at last Ghaba Shambi was reached, where the lieutenant took the Nile boat to Khartoum.

In his journey, which had lasted three years, he had traversed five thousand miles of country, none of it well known, and some of it unknown altogether before his exploration. He had made most valuable surveys, shown that practicable waterways existed which will be of considerable service in opening up this rich and populous part of Africa, and brought back scientific records and zoological collections of the highest possible value.

His success was wonderful, but it was saddened by the thought of those who had so bravely set out with him to penetrate far into the mysterious

heart of Africa, but who had paid with their lives for their daring and devotion.

After returning to England, Lieutenant Boyd Alexander spent several busy and happy months in completing the literary work connected with his expedition. His book, *From the Niger to the Nile*, is distinguished from many works of a similar character by its delightful literary style, and by the many poetic touches which show the explorer to have had more than a little of that romantic disposition which lends zest to the work of pioneer or discoverer.

The book also shows unconsciously his consistent humanity and fairness in dealing with people naturally treacherous and unstable in character, as are many of the tribes through whose country he passed.

In December, 1908, he set out from England to visit the islands of St Thomas, Principe, and Annobom in the Bight of Biafra, following up there the investigations he had carried out with such success in the sister island of Fernando Po.

Speaking with one of Reuter's representatives, he had said that he expected to be away from home for about a year, and that he hoped to penetrate about three hundred miles into the country behind the Cameroon coastline, adding that his plans were not very definite, but that he might work through to the Nile.

The mountainous district of the Cameroons forms a German protectorate, and has, in the dry season, a very salubrious climate. It might be made very fertile and productive by proper cultivation.

On the highest peak of the mountain mass which takes up a great part of the area of the country are volcanic craters, some of which are said to have been active within the memory of man. Lieutenant Boyd Alexander succeeded in climbing this mountain, and, according to the natives, succeeded, too, in bringing about a most terrific earthquake. They said that by diving into the crater he had vexed the devil who lived there—a terrible creature, half man and half beast, blessed with only one eye, and having grass-trimmed limbs.

The earthquake, whether caused by the vexing of this devil or not, was terrific. There were a hundred distinct shocks in one night, trees crashing in the forest and monkeys screaming with terror. It is difficult to imagine a much more alarming experience.

But the charm of the old west to east route still seems to have held the explorer; for we find him trying, during the early months of 1910, to traverse the country of Wadai, east of Lake Chad, and in French territory only recently occupied.

At Abeshr he was warned that the natives were hostile, deeply resenting the occupation of Abeshr

by the French. Only a short time before a French column had been ambushed, and had suffered heavy loss; and a punitive column was even then dealing with the aggressors.

In spite of this warning, Lieutenant Boyd Alexander persisted in attempting to continue his journey, getting away from Abeshr by means of a ruse. The full details of the attack made upon him by the natives have not yet come to hand. The sad news of his death was sent to his father, Colonel Boyd Alexander, by José Lopez, the faithful Portuguese who has been his companion and servant during several years of hazardous travel, and who once saved his life when he was attacked by a lion in the forest.

José's laconic telegram simply said: 'Boyd killed east of Abeshr, April 2nd.—Lopez.'

Since then a few additional details have been added by the French military commander, Colonel Moll; and later news is to hand that the explorer's body has been carried to the British post of Maifoni, where, you will remember, his brother died in 1904.

So, in his thirty-seventh year, Boyd Alexander has given up his life, as so many before him have done, in striving to open up to civilising and humanising influences the broad areas where Africa's children still live in almost primitive ignorance and superstition.

III. Dr Sven Anders von Hedin

IN considering the story of the slow and difficult exploration of the Dark Continent, we have seen how very greatly the compactness of a vast land mass hinders the attempt of a traveller to penetrate into the interior. Had Africa possessed such inland seas as the Baltic, North Sea, Adriatic, and Black Sea of Europe, or such excellent waterways as the St Lawrence, Mississippi, Amazon, and Plate River of America, the vessels of enterprising and venturesome merchants would long ago have explored its secret recesses, carrying with them the breath of a higher civilisation.

The heart of the mighty sister-continent of Asia is even more inaccessible than the central lands of Africa; for, though the Black Sea, the Persian Gulf, the Bay of Bengal, the Yellow Sea, and the Sea of Okotsk, together with such splendid waterways as the Indus, the Ganges, the Brahmaputra, the Hoangho, the Yang-tse-kiang, the Amoor, and the rivers of Siberia, afford easy and extensive highways of commerce, the mass of the continent is so vast that immense tracts of the

interior are altogether out of touch with the western world.

This is, after all, not so very surprising, when we remember that the area of Asia is considerably over seventeen million square miles, or about one-third of all the land of the earth's surface.

And yet there is something strange in the thought that great sections of the surface of Asia have never been surveyed by Europeans; for that continent is undoubtedly the cradle of the whole human race, the home of the most ancient civilisations, the birthplace of religion and science.

Much of what has happened since our Aryan forefathers wandered with their herds from the Central Asian plateaus into Europe has left no existing record; but enough remains in architecture, sculpture, and literature to show to what a high standard of intellectual and industrial life many Asiatic races had attained whilst the people of Europe were still nomads and hunters.

Vanished civilisations have left traces in Africa upon which the traveller occasionally stumbles; but in Asia, the relics of the mighty nations that are no more strew the ground in almost every district. Asia Minor can show examples of the culture of Hittite, Greek, and Roman; Palestine was once the Land of Canaan, the abode of the Hebrews, who themselves dispossessed an older

civilisation; the Valley of the Euphrates was the seat of the Assyrian civilisation, possibly the most ancient of all; India, China, Japan, and Cambodia have records of a time so remote that, beside them, British history is as a tale of yesterday; the vast tablelands and desert plains of the interior hold ancient cities, many now covered by the drifting sands of the desert, where the voices of busy traders were heard a thousand years ago and more; while, choked in the tropical tangle of the forests of Siam and the jungles of Burma, are silent cities and temples whose courts and chambers once rang with the hum of Eastern multitudes.

The earliest recorded intercourse between Europeans and Asiatics was not at all of a friendly nature. Long before the siege of Troy, on the coast of Asia Minor, was begun by the Greeks, the races living on the opposite shores of the narrow seas connecting the Mediterranean with the Black Sea had more than once come to blows. The trade, such as it was, between East and West was carried on by the Phoenicians—the people of Tyre and Sidon mentioned in the Bible.

Little indeed was known by Europeans about the interior of Asia; but Greek colonisation of the coasts of Asia Minor, and the navigation by Greek vessels of the Black Sea, led to a great

extension of the geographical knowledge possessed by that ancient people.

Five or six hundred years before the beginning of the Christian era the Persian Empire reached the summit of its greatness, welding into one state nearly all the nations between the Mediterranean on the west and India on the east. Under a firm and settled government commerce and intercourse thrived apace, and the Greek merchants were able to supplement their scanty knowledge concerning the lands farther within the heart of the continent.

But it was the great conqueror, Alexander, who finally threw these distant provinces open to his countrymen, the Greeks. With his ever-victorious army he marched far into the interior of Asia, crossing the Indus and its tributaries, and advancing even as far as the Jumna. He explored also, in the same militant way, the lands to the north-east of the old Persian Empire, and also the valley of the Lower Indus.

Shortly after Alexander's time Egyptian vessels began to visit the ports of Southern Asia, sailing as far as the island of Ceylon. The knowledge of the coastlands and harbours thus obtained filtered through to Europe by way of the port of Alexandria.

The Romans seem to have been the first civilised Europeans to discover the Caspian Sea,

though the mere fact that such a sea existed was known much earlier.

The breaking up of the Roman Empire and the rise to power of the Saracens put an end, for many years, to all exploration by Europeans of any portion of South-western Asia ; but the work of interchanging the products of the East for those of the West was gradually taken up by the Arabs, who became famous as travellers and geographers.

The attempts of the Crusaders to wrest the Holy Land from the Saracens in the Middle Ages resulted in an increase in European knowledge of Western Asia ; while the rise of the commercial cities of Italy, and the development of their trade with the peoples of Western Asia, gradually brought about a better feeling between Europeans and Asiatics, and made it possible for European travellers and traders to traverse lands closed to them for ages.

There is in the very heart of Asia a region nearly as big as the whole of Europe, which has sent out again and again vast conquering hordes into the lands to the south and west. This is the tract shut in by Persia on the west, China Proper on the east, India on the south, and Siberia on the north.

Much of this region is raised thousands of feet above sea-level, one plateau, the highest of all,

being known as the 'Roof of the World.' From its snow-crowned fastnesses spring off mighty mountain ranges—the Himalayas and Karakorum Mountains to the south-east, the Kwen Lun mountains to the east, the Sulciman Mountains and the Hindu Kush to the south-west, and the giant Thian Shan Range running north-east almost as far as from London to St. Petersburg, joining up at last with the offshoots of the Altai Mountains.

Enclosed between the Himalayas and the Kwen Lun Mountains is the Plateau of Tibet, a country until quite recently entirely closed to European travellers and traders. So elevated above sea-level is this land, that the average height of its broad pastures, wide deserts, and fertile valleys, is greater than that of the Alps. Hemmed in by its mighty mountain buttresses, the peaks of which reach far above the clouds, it has for ages held aloof from intercourse with other nations. On the northern side of the Himalayas, and not far distant from each other, rise the Indus and Brahmaputra, which, flowing in opposite directions, burst southward through the mighty range by gorges more than one thousand miles apart.

This vast plateau, the higher parts of which are frost-bound for many months of the year and beaten by terrific storms of icy wind, is peopled

by a hardy race of shepherds, herdsmen, and farmers who, though now subject to China, have on many occasions shown themselves fierce and formidable foemen.

The chief beast of burden in this elevated region is the yak, whose shaggy coat and hardy nature enable it to endure the snowstorms and piercing cold of the mountain passes, many of them as high as the Alpine peaks of Europe.

North of Tibet, between the Kwen Lun Mountains on the south and the Thian Shan Mountains on the north, is the country of Eastern Turkestan, stretching from the Pamir Plateau—the 'Roof of the World'—on the west, to the Great Desert of Gobi on the east.

This country, which is nearly as big as France and Germany put together, consists of fertile river-valleys and wide grassy pastures shut in between ever-encroaching wastes of wind-swept sand. The fertility is mainly due to the river Tarim and its tributaries. This river, as long as the Danube, rises in the slopes of the Pamir and its offshoots, flows as a mighty stream for hundreds of miles, and then loses itself in a maze of marshes and shallow lagoons.

The two most important cities of Eastern Turkestan are Kashgar and Yarkand, where fairs are held for the exchange of Eastern wares for those of the Western world.

Away to the north-west, over the Thian Shan Mountains and the Pamir, is the country of the 'steppes'—the grass-lands which stretch from the borders of Mongolia on the east to the Caspian Sea and beyond it on the west.

Men of science tell us that this vast plain was once the bed of an inland sea, of which the Black Sea, the Caspian Sea, and the Sea of Aral, and numerous smaller salt lakes are the remaining portions. They say that the waters escaped by the bursting of the Bosphorus between Europe and Asia, and that if this strait were closed by a dam two hundred feet in height water would again gradually cover the ancient sea-bed.

On these grass-lands were reared the horses which carried into Europe the conquering hordes of Attila the Hun, of Genghis Khan, and Tamerlane—hordes which seemed likely at various times to subjugate the nations of Europe. The Mongol Tatars, indeed, held Russia in bondage for over three hundred years, leaving so enduring an impression upon the manners and customs of the people and upon the very style of their architecture that, even to-day, Russia seems to belong more to Northern and Central Asia than to Europe.

During the thirteenth century the Pope of Rome and the King of France, alarmed by the incursion of the Mongol hordes into Russia and

the increasing power of the Mohammedan princes of Western Asia, hit upon the plan of setting the one against the other, and so exhausting both. They resolved to ally themselves at first with the Mongols; but, before this could be done, they considered it necessary that the Mongols should be converted to the Catholic faith; and so several holy men traversed the wide plains to the court of the great Khan.

They did not succeed in making the Tatars Christian, but they obtained valuable information concerning the remote countries of Asia.

Later in the same century a Venetian lad of fifteen, named Marco Polo, actually succeeded in making his way on foot across Asia to China. He was fifteen, that is to say, when he set out from Venice with his father and his uncle; but he occupied six years in completing his journey.

From the Syrian coast the party crossed the ancient land of Mesopotamia to Bagdad, a city about which every lad has read in that most wonderful book, *The Arabian Nights' Entertainments*. From Bagdad they made their way down to the Persian Gulf, intending to take ship to China. Finding this could not be done, they decided to attempt the journey by land.

They got safely across Persia and Afghanistan, when young Marco broke down, and had to be nursed back to health and strength. When he

was once more able to travel the little company resumed their journey, climbing the western slopes of the Pamir Plateau, crossing its wind-beaten surface and coming down to the beauty and fertility of Kashgar and Yarkand.

After visiting the city of Khotan, also in Eastern Turkestan, or, as it is sometimes called, Chinese Tatar, they crossed the country to Lob-nor, the lake into which the Tarim's waters find their way through marsh and lagoon.

Traversing the Desert of Gobi they reached Northern China, and finally arrived at Peking.

Marco Polo afterwards became a trusted friend and servant of Kublai Khan, the Emperor of the Mongols, and stayed in his dominions for seventeen years. He learnt many of the languages spoken in the various provinces, and was often entrusted by the emperor with missions to remote portions of the empire. He had formed the invaluable habit of keeping a journal, and noting in it everything that struck him as worthy of record. On returning to Italy, he was able from these notes to tell one of the most remarkable stories of travel ever related. As a prisoner of the Genoese he related his adventures to a fellow-prisoner, one Rusticiano of Pisa, who wrote the account as we have it to-day.

After Marco Polo's time a number of travellers visited various parts of Asia, though none

penetrated as Polo had done to the mysterious Lob-nor. More than six hundred years passed before another European foot trod the shores of that remarkable inland sea.

Many accounts given by later travellers are not altogether trustworthy; and whereas Polo's story is being confirmed by recent discovery, the stories of such explorers as Sir John Mandeville have been found full of fables and inventions.

The tale of the exploration of Asia within the last century is too vast to be dealt with in so short a sketch as this; and it will be well, now that we have some notion of what had been done in the way of general exploration up to the time of Marco Polo, to consider only the story of those intrepid travellers who have endeavoured to traverse the mountains, plains, and plateaus of the heart of the continent.

The throwing off of the Mongol yoke by Russia about the middle of the fifteenth century, and the slow but steady rise to power of that nation, altered profoundly the history of the races of Northern and Central Asia. By the end of the seventeenth century Russian sway was exerted over the whole of Siberia, even to remote Kamchatka; and from that time to the present day countless travellers have pushed their researches into almost every corner of its wide domains.

Within the last century Russian armies have advanced step by step towards the Pamir Plateau and the Thian Shan, until now the Russian Czar's dominions extend to the borders of Afghanistan, Persia, China, and, even at one point, British India. The story of the overthrow of the strong khanates of Khokand, Samarcand, Bokhara, and Khiva is full of thrilling chapters; and it was only after long and heroic struggles against the northern power that the fierce Turkomans and Tatars gave up the contest as hopeless, and acknowledged the sway of the White Czar.

Nowadays, travelling in Russian Central Asia is safer by far than travelling in the provinces south of the Caucasus; though only a few years ago the whole district was dominated by savage robber bands, against whose depredations the farmers had to secure themselves by building strong towers in their fields as places of refuge till help could come.

After all that has been said about Russian aggression, it is pleasant to know that Central Asia is vastly happier, more prosperous, and more progressive under Russian rule than it had been for centuries.

Many inhabitants of Russian Central Asia are nomads, wandering with their flocks and herds over the steppes; but the fertile oases and river-valleys, which splash with living green the

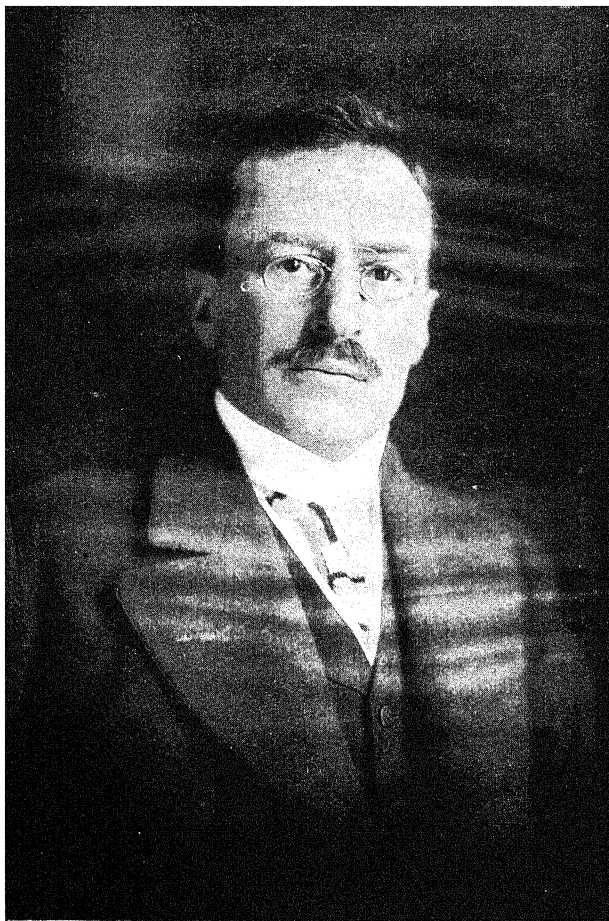


Photo: Ernest H. Mills.

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Dr. Sven Anders von Hedin.

immense brown deserts, produce rich crops of grain, vegetables, fruit, and cotton.

To get this produce to Russia, especially the raw cotton, which is wanted by the cotton-mills of Warsaw and Moscow, the Russian government has, at enormous expense, pushed forward a railway from the Caspian Sea to the foot of the Thian Shan Mountains, linking up the most populous places.

The exploration of this part of Central Asia is now much more easily accomplished than formerly; but it is still a difficult matter to penetrate into the countries lying east of the Pamirs—Eastern Turkestan and Tibet. Here there is no railway; the traveller must hire camels, asses, ponies, or yaks, with their drivers, or he must attempt a perilous descent of the rivers in flat-bottomed boats, taking with him all that he will need on his journey. Eastern Turkestan and Tibet form parts of the Chinese Empire; and the Chinese have never encouraged the visits of Europeans to any part of their territories; while many of the tribes are resentful of the presence of strangers.

The chief city of Tibet is Lhasa, a famous resort of Buddhist pilgrims and the seat of the Grand Lama, the high-priest of Buddhism. The first European to enter this holy city was Friar Odoric, who reached it from China in the fourteenth century.

During the next two hundred years the mysterious city was visited by other Roman Catholic missionaries sent out to convert the inhabitants ; while, during the eight years between 1729 and 1737, the Dutch traveller Van der Putte made a most remarkable journey from India through Lhasa to Peking, returning by way of Further India and Lhasa. It is said that when he got home he destroyed all his notes, fearing that those who might read them would disbelieve his wonderful story.

In the year 1811 Lhasa was reached by the Englishman Manning, and in 1845 two French missionaries named Huc and Gabet travelled to it from Peking ; but since their visit the Tibetans have become even more than ever determined to prevent strangers getting a glimpse of their jealously-guarded city. You will hear in another section of this book how the veil of mystery was at last lifted.

Many explorers have entered Tibet both from the Indian and from the Russian side ; and, though they have not succeeded in opening up the country to European influence, they have done much to reveal the nature of the vast plateau wedged in between the Himalayas and the Kwen Lun.

Some of the most successful explorers have been Indians specially trained to the work by

British officers. One of these men travelled eastward from Leh in Ladak towards Lhasa, driving before him a flock of twenty-six sheep, on whose backs his luggage was strapped. For four months this man, Nain Singh, struggled on, covering a thousand miles of difficult country. Only four of his sheep survived the journey.

In another section of this book we shall read more about the explorers of Tibet, particularly from the Indian side of the country. Of those who have, from the Russian side, penetrated the central region of Asia, of which Tibet is a part, one of the most noteworthy was the Russian General Prejevalski. Between 1869 and 1888 this intrepid explorer made five journeys in Central Asia, travelling in Mongolia, the desert of Gobi, Eastern Turkestan, Tsaidam, Western China, and Tibet. Amongst other interesting discoveries, he was the first European to see the wild camel and the wild ass in their native fastnesses. He walked round the lake of Koko-nor, rediscovered Lob-nor, visited by Marco Polo so many hundred years before, discovered a chain of mountains, the Altyn-tagh, of which even the Chinese geographers seem to have been ignorant, crossed several times the desert of Gobi, and visited the sources of the mighty Hoang-ho.

Since Prejevalski's death in 1888, travellers of many nationalities, English, American, Russian,

German, and Indian, have entered Central Asia from different points and have traversed different portions of it, each adding to the sum-total of our knowledge of that region; but many most interesting problems remain unsolved. Possibly chains of mountains exist, of which modern map-makers are quite unaware; lakes and rivers may be found even yet in districts hitherto believed to be almost waterless; ancient cities may be laid bare by the terrific storms which at intervals lift and carry for miles the shrouding sands of the deserts; old caravan routes and forgotten highways of commerce may be rediscovered and perhaps used again; traces of the primitive races from which we are all descended may be brought to light.

It was the consideration of these fascinating possibilities which induced Dr Sven Anders von Hedin to make his wonderful expeditions into the heart of Asia.

Dr Sven Hedin, as he is usually called, was born on the 19th February, 1865, at Stockholm, in Sweden, and is therefore a subject of King Oscar, who has always taken the keenest interest in his explorations. His father, an architect of the Swedish capital, determining that his son should have the best possible education, sent him from the High School at Stockholm to Upsala, and afterwards to Berlin and Halle. At these centres

of learning the boy received the training in physical science and languages to which so much of his success as an explorer is due.

He graduated finally as a Doctor of Philosophy ; but while still a student, only twenty years of age, he showed by his journeys in Persia and Mesopotamia that he had already decided what his life's work was to be.

At this early age he gave proof that he possessed the gifts of keen observation and uncommon sagacity in dealing with Eastern peoples. This possibly had to do with his selection by King Oscar as a member of his Embassy to the Shah of Persia in 1890.

While stationed at Teheran, the capital of modern Persia, he found time to visit the central khanates of Khorasan and Russian Turkestan, and to cross the Thian Shan to Kashgar.

These journeys, important in themselves, were utilised by the future explorer in accustoming himself to the methods of Asiatic travel, and to learning the languages of the natives of the various districts. His wonderful facility in learning new tongues has greatly helped Dr Sven Hedin in gathering information concerning the natural features and antiquities and customs of the lands he has visited.

In 1893, determining to cross Asia from Orenburg in the Ural Mountains to Peking, he set out

from Stockholm on 16th October, taking ship to St Petersburg, and thence proceeding by train to Orenburg, a distance of fourteen hundred miles.

The money needed for his journey—nearly seventeen hundred pounds—was found by those interested in geographical research, a considerable sum being contributed by the King of Sweden.

From Orenburg the traveller decided to proceed to Tashkent in Turkestan across the Kirghiz steppes and the Karakum Desert—the Desert of Black Sands—and then round the Sea of Aral and up the valley of the Syr-Daria—the ancient Jaxartes.

This journey of thirteen hundred miles had to be undertaken in a tarantass, a carriage without springs or seats, in which the traveller made himself as comfortable as possible in the hay with which the bottom of the vehicle was packed, wrapping himself in furs and shawls when the weather was cold.

The tarantass was drawn sometimes by horses, three or five being yoked to it, and sometimes, when the deep mud or shifting sands demanded more strength than horses could supply, by camels. The camels were guided by reins fastened to a piece of wood passed through their nostrils.

The Kirghiz steppes are very thinly inhabited, the people being principally herdsmen; but many caravans continue to bring the wool and raw

cotton of the Central Asian states, together with tea, Cashmere shawls, and jade, to be exchanged in the Russian frontier towns for the products and manufactures of the West.

The traveller found the Sea of Aral, round the northern portion of which he had to travel, extremely interesting. This salt lake, about as big as Scotland, is very shallow, but abounds with fish. Two big rivers, the Amu-Daria and the Syr-Daria, run into it. Along the side of the Syr-Daria Sven Hedin was drawn over a plain of yellow clay as flat as the top of a table, reaching at last the city of Tashkent.

At Tashkent he bought revolvers and ammunition, clocks, compasses, musical-boxes, field-glasses, kaleidoscopes, microscopes, silver cups, ornaments, and cloth. These were all intended to barter for necessities with the peoples among whom he would have to journey, or for presents to their rulers. Such things are valued more highly than money by the natives of Central Asia—in some districts you may buy a horse for a few yards of calico.

Instead of going as before by the well-known pass to Kashgar, Sven Hedin resolved to make his way into the Pamir Plateau. This was a feat which few would have attempted in the depth of winter.

Through difficult and dangerous gorges, over

slippery ice-slides—down one of which a horse fell and broke its back—and across snow-slopes where they were compelled to dismount and crawl on hands and knees, the traveller and his followers proceeded, encountering terrible ‘burans’—snow-storms so furious that at a distance of two feet the men could not see one another—and sleeping in the ‘yurts,’ or tents, of the Kirghiz shepherds, who showed them the greatest kindness.

Reaching at last Fort Pamir, they were welcomed by the whole garrison of one hundred and sixty men, and stayed as guests until the 7th of April.

Fort Pamir is the chief Russian post in this lofty region; and here Russia keeps, the whole year round, watch and ward against British, Afghan, or Chinese attempts to wrest from her the sovereignty of this desolate upland.

From Fort Pamir Hedin attempted the ascent of Mus-tagh-ata, the highest of the mountains springing from the ‘Roof of the World.’ The name means the ‘Father of the Ice-Mountains.’ This peak, rising twenty-five thousand six hundred feet above sea-level, is almost sheathed in ice, and is believed by the Kirghiz to be the abode of seventy saints, of whom Moses is one. On the top of it they believe a city is built where sorrow and misery and sin are unknown.

Sven Hedin started with six Kirghiz and nine yaks to scale this hoary giant, but after ascending

higher than Mont Blanc was obliged to descend. owing to an attack of inflammation of the eyes.

He now went on to Kashgar, where he was ill for a month, receiving much kindness from the Russian consul-general. After resting over Christmas he again returned to the Pamir, and attempted on four successive occasions to reach the summit of Mus-tagh-ata. Twice he got as high as twenty thousand feet above sea-level, but was compelled to give up the attempt owing to the awful snowstorms and to repeated attacks of mountain-sickness, by which he and his men were almost prostrated. A terrible, splitting headache, violent palpitation of the heart, and inability to eat or drink or sleep were the worst symptoms.

During the weeks spent on the mountain and the plateau from which it springs, Sven Hedin lived like one of the Kirghiz, sleeping in their tents, eating their food, and taking part in their sports. The Kirghiz men do little work; their food is principally mutton and yak's milk, both obtained from their flocks and herds, which are guarded from the wolves by big, fierce, long-haired dogs. The women attend to all the tent-pitching, carpet-weaving, milking, and other household duties.

On the 10th of April, 1895, the real work of exploration began; for on that day Sven Hedin set out to cross the Takla-Makan Desert from

the Yarkand Daria to the Khotan Daria, both tributaries of the Tarim.

Many stories are told about the Takla-Makan Desert, and the ancient cities buried with their treasures beneath its shifting sands; and some of the wastrels among the peoples who live on its borders spend their lives in waiting till the wind shall so shift the sand that they may gain the wealth hoarded there for centuries.

Sven Hedin was greatly interested by these stories, and entered eagerly upon his difficult task, taking with him four men and eight camels. The desert, however, all but put a disastrous end to his expedition. Water gave out, and men and camels struggled for days over the great sand-dunes, almost suffocated at times by sandstorms of dreadful severity. Two men died, a third barely escaped with his life, while only one of the camels survived the awful experience. When the explorer at last reached the Khotan Daria and found a water-hole in its wide bed, he was alone—his last follower had fallen exhausted.

After spending some months exploring the southern and eastern portions of the Pamir Plateau, Dr Hedin started on the 14th December 1895 from Kashgar once more on a desert journey. This time he intended to cross the desert only to the Tarim, though he went on to Lob-nor, the lake previously rediscovered by Prejevalski.

Journeying first to Khotan, he made a thorough examination of the many relics of ancient civilisations to be found in the country round about that city. These consist chiefly of terra-cotta and bronze figures of men and animals ; but the doctor found in the heart of the desert the remains of two forgotten cities, one of which, Takla-Makan, had never before been visited by any European.

The explorers now followed a fine river, the Keriya Daria—never before seen by any but Asiatics—till it lost itself in the sand. It is sad to think that the continual advance, for thousands of years, of the fine sand of the desert is filling up the channels of rivers, smothering forests and fields, and burying towns and villages in Eastern Turkestan. The prevailing winds are from the east and north-east, blowing with such tremendous force that sheep are sometimes carried away bodily, while the whole atmosphere is filled with dust.

The northern part of the desert is the haunt of the wild camel, and Dr Hedin was fortunate enough to secure the skin of a fine specimen, besides seeing several herds. He believes these camels to be, like the wild horses of America, descendants of tame animals which have escaped into the wilderness.

After a journey of forty-one days the river

Tarim was safely reached, and the party given a short rest before proceeding through dense forests and over grassy steppes to the mysterious Lob-nor, about which so many conflicting tales had been told. Dr Hedin found that the lake was shrinking, and that it had probably shifted its position to the westward, besides being divided into four sections connected by narrow waterways. He spent some pleasant weeks exploring the Lob-nor district and boating on the lake with the native fishermen, and then returned to Khotan to set off finally for Peking.

His way now led over the passes of the Kwen Lun Mountains into Northern Tibet, through a completely uninhabited country. Nearly all the members of his company broke down in the icy fastnesses of the mountains, so that, as he himself says, he seemed to be leading a troop of invalids into Northern Tibet. Some of the men deserted, but were followed and brought back, and made to finish the work for which they had been engaged and paid. Once the Arka-tagh—the northernmost ridge of the Kwen Lun—had been crossed, better progress was made. The travellers passed day by day through a wide valley many thousands of feet above sea-level, and with a constant succession of lakes. In this valley both the wild ass and the wild yak were met in considerable numbers,

The severe weather and the frequent storms of hail and snow tried the pack-animals severely. Only a small quantity of maize could be given them; the grass was of wretched quality; and one by one the poor creatures failed and died on the road.

For fifty-five days they went on without seeing any other human being, getting through at last to Tsaidam, with its Mongol population. As he travelled through this country, Dr Hedin actually learnt the Mongol language so perfectly that he was able without any interpreter to carry on a conversation with the viceroy of one of the provinces.

The way now led past the lake Koko-nor, through the country of the Tanguts, full of robber bands with a bad reputation. The change in the attitude of the people towards the travellers from that of the Mohammedans of Turkestan was, indeed, very noticeable; but in the end the traveller arrived at Peking safe and sound, having crossed the entire continent from west to east.

On the 10th of May, 1897, he once more saw the spires of his native city after an absence of more than three and a half years.

In the midsummer of 1899, the intrepid explorer set out once more for Central Asia. Arriving at Kashgar he crossed to the town of Lailik, on the Tarim. Here he bought two boats,

fitting up the bigger of them, which was nearly forty feet long, as a sort of house-boat. On these he floated down the Tarim, sticking often in the shallows, to Lob-nor. Starting from Lailik on the 17th September, he spent three months on the river, exploring under almost perfect conditions.

From its source on the slopes of the Karakorum Mountains to where it loses itself in the marshes and lagoons of Lob-nor, the Tarim has a length equal to that of the Danube, and is in many parts a noble stream.

Much of the journey was like a progress through fairyland. The people living in the fertile tracts which in places fringed the banks were most kindly and hospitable, the women and children sometimes wading into the river to present the traveller with melons and other produce of their fields and gardens.

In other parts of its course the river runs through dense forests or beautiful groves; but for long, weary stretches the desert crept up within sight on each hand, sometimes coming right up and overhanging the stream.

Wide tracts of pasture land, with the half-wild shepherds staring in wonder and consternation at the strange-looking vessel, alternated with savage wilderness where tigers and other beasts came nightly to drink at the side of the river.

This pleasant time was brought to an end by the freezing of the river ; and after having drifted and sailed and poled and paddled for hundreds of miles, the explorer and his party went for a few days into winter-quarters before setting out on a perilous desert march of nearly two hundred miles to the south-west.

At his winter-quarters he was visited by M. Bonin, a French traveller, whose path happened to cross his own ; and a very pleasant evening the two spent together, comparing notes and relating adventures.

The march across the desert took place under wintry conditions, snow falling at times to the depth of a foot, and the thermometer registering nearly fifty degrees of frost. Water was carried in solid blocks of ice, though in several places the liquid was found at a depth of four and a half feet below the surface of the desert. The tears caused by the cold wind often froze on the lashes, and had to be thawed before clear vision could be obtained.

In the beginning of March, Dr Hedin, who had journeyed back by another route to the place where his house-boat had been frozen in, started once more down the Tarim, reaching the country of Lob-nor, and exploring the lakes and streams in a little English-made canvas boat.

Three months were spent in these interesting

researches, during which Dr Hedin collected many fragments of the poetry and folklore of the Lob-lis, or men of Lob-nor.

The next few months were spent in Northern Tibet, to reach which the traveller was compelled to cross stupendous mountain-chains, finding a perilous path through rocky gorges and up the beds of frozen streams.

Returning once more to Lob-nor, Dr Hedin was fortunate enough to find the ruins of an ancient city, where he unearthed not only carvings, bronze vessels, and fragments of pottery, but also several strips of manuscript and pieces of wood covered with writing in strange, unknown characters.

The traveller now set out on his most perilous adventure. This was no less than an attempt to make his way through Northern Tibet to Lhasa, the Holy City of the Tibetan Buddhists, where lived the Dalai Lama, the high-priest of Buddhism.

His plan was to travel with his main caravan as far to the south as possible before being seen by the Tibetans, and then to enter the forbidden city disguised as a Mongolian pilgrim.

Travelling through a most difficult mountain country—as he says, amongst the clouds, so great was the altitude of the passes and plateau—he succeeded in getting within eight days' journey of Lhasa, with two companions, a Buriat Cossack and a real lama, or Buddhist priest.

At this point, however, he was taken prisoner and conducted back to his main camp. He then tried to penetrate farther to the south, but was again arrested and compelled to return to Leh, in Ladak, whence he returned to Europe, reaching Stockholm in June, 1902.

In 1905 he undertook another journey of exploration, discovering in Eastern Tibet many mountains, lakes, and rivers never before indicated on any map.

Dr Sven Hedin belongs to the highest type of explorer. His dealings with the natives of the countries through which he has passed have always shown him to be kindly, courteous, and strictly honourable ; so that he has many firm friends among the Russians, Kirghiz, and Chinese with whom he has had dealings. In nearly every district, except, of course, Tibet, he has been treated with the greatest respect and deference ; and Central Asian officials and governors have vied with each other in helping him and clearing away difficulties.

It has been mentioned before that Dr Hedin's skill as a linguist has made it possible for him to pick up information and to enter into friendly relations with his informants in a way never equalled by any other explorer.

It must not be forgotten, in dwelling so much upon the picturesque side of Dr Hedin's

wanderings, that they have also a deep scientific significance. Records of depths of lakes, volume of streams, temperatures, altitudes, levels, humidity of the atmosphere, plant-life, animal-life, measurements of the heads of the men of various races, and statistics concerning glaciers have no place in a little sketch such as this ; but to students of such matters they are invaluable, and place the name of Sven Hedin very high on the roll of the world's greatest scientists.

IV. Sir Francis Edward Young- husband

IN the last section something has been said of Dr Sven Hedin's attempts to enter Lhasa, the Holy City of Tibet, and mention has been made of earlier expeditions to that jealously guarded and mysterious Buddhistic capital. In order, however, that we may fully understand the position of affairs, and realise the importance of the achievement of the Englishman who at last laid Lhasa open to Western examination, and tore away the veil of mystery in which for ages it had been enveloped, it is necessary to know more about the country, its people, and their religion, and also something of the story of the courageous explorers who tried to penetrate beyond its frontiers.

The first European to enter Tibet was the Friar Odoric, an Italian monk, who was probably only excelled as a traveller by his countryman Marco Polo ; but Odoric's descriptions are such a blend of acute observation and vivid imagination that too much dependence must not be placed

upon them. His visit to the country was paid about the year 1318.

The first really trustworthy information concerning Lhasa was brought to Europe by Fathers Grueber and D'Orville, two Roman Catholic monks, who reached the city from China in 1661, and stayed for two months.

In the next century the Jesuits and Capuchin monks made a determined effort to convert the people of Lhasa to the Roman Catholic faith, and were allowed to build a chapel. They were, however, driven out in 1740.

During this time the Dutchman Van der Putte arrived at the Tibetan capital and spent some years there.

It will be seen that, at that time, the Tibetans were not so unfriendly to foreigners as they afterwards became—it was the country itself which made it a matter of such difficulty for visitors to make their way into Tibet.

Tibet is the highest plateau on the face of the earth supporting a whole branch of the human race. Shut in between the mighty ranges of the Kwen Lun and Himalayas, its wind-swept uplands can be reached only through difficult and dangerous passes, most of them much higher than the tops of the highest mountains of Europe.

It is only in the south and south-eastern portions of the country that a fairly large population can be

maintained. Here are fertile river-valleys and fruitful pastures, through which run the head waters of the Indus, Sutlej, Brahmaputra, Mekong, Salween, Hoang-ho, and Yang-tse-kiang, and here most of the towns, including Lhasa, are situated.

The central and northern regions are taken up by a vast, sterile tableland called the Chang, over which some few herds of sheep and yaks roam in the summer; but the whole plateau is most uninhabitable during the dreadful months of winter. Across the tableland run almost parallel ranges of lofty mountains; and between the ranges lie the basins of rivers which lose themselves in a maze of salt lakes and marshes. There are no trees, so that the wretched nomads are reduced to the using of argol—the dried dung of animals—for fuel.

The people of Tibet belong to the Mongolian race, though many of the men have handsomer features than either Chinese or Koreans. This may be partly the result of their intermarriage with the Aryan tribes on their western and southern borders. Their number is possibly not greater than two or three million, though some travellers give the population of the whole country as being about eight million people. This, however, probably includes the many border tribes.

Tibetans have some peculiar customs. They

show respect by putting out their tongues, and go about their daily work muttering over and over again the sacred words, 'Om mani padme hum,' the meaning of which is, 'Oh, the jewel of the lotus.' The lotus is the flower sacred to Buddha, the founder of the religion of Buddhism.

Not only do the Tibetans believe that the constant repetition of these words will bring them a blessing, but they believe also that if the motto is written or printed or engraved on a wheel or mill, or anything else which may be made to revolve, each revolution will bring its certain spiritual reward.

So, wherever he may go in the more thickly populated parts of Tibet, the traveller comes across prayer-mills, often consisting of huge drums or cylinders of stone or wood turned by hand or by the wind, or by running water. Each cylinder bears the sacred words.

It is important, in the eyes of the Tibetans, that the mills and the little hand prayer-wheels which many of them carry about, should always be turned in the direction of the sun's apparent path round the earth. Should a prayer-wheel be turned in the wrong direction, the blessing is reversed also. Even children will fall into a most ungovernable rage if a stranger should happen to turn the wheel against the sun.

Buddhism, as it was first taught by its founder,

Gautama Buddha, was a pure and lofty faith, teaching that only by self-conquest and self-sacrifice could a man attain to the highest spiritual excellence of which he is capable. But in the twenty-six centuries which have elapsed since its foundation abuses have crept in; and though nearly one-third of the human race profess the faith, their understanding of its meaning is of the vaguest.

The central idea is that a soul passes through body after body, whether of beasts or men, living a full life in each, and passing into a higher or lower body according to its merits. By continual discipline, contemplation, and self-denial, the soul at last conquers all desire, and is then received into a state of everlasting peace and rest, known as Nirvana.

But, as it is practised to-day, Buddhism is much more a religion of the veneration of sacred relics of Buddha and images of him in stone and wood and brass, with the vain repetition of religious formulas of which the worshippers do not know the meaning.

In Tibet it has assumed a peculiar form known as Lamaism. The lama is the priest, the high-priest being called the Dalai Lama. These lamas have gradually gathered into their hands all the power and much of the wealth of the country. They keep up the pretence of scorning luxury and

high living; but the materials of which their apparently patched garments are made is often of the finest quality; and the wealth of the convents is so great that they can support hundreds and sometimes even thousands of lamas or monks.

The Grand Lama usually dies young; and a new ruler is then chosen by the chief lamas to succeed him. Their choice falls always upon some young boy, in whom they profess to believe the soul of Buddha has been born again.

The ceremonies of the temples are remarkably like those of Roman Catholic churches—so like, indeed, that the first Christian missionaries believed Satan had invented them in mockery of the Christian religion. The monks shave their heads, dress for service in proper vestments, sing chants, swing censers in the sanctuary, ring a little bell at intervals during the service, and bow themselves before the altar.

They teach fasting, confession, and penance for sin, sprinkle their devotees with holy water, make long pilgrimages, repeat prayers with the help of a rosary of beads, and invest their chief priests with a mitre like that of a bishop.

It is possible that the Tibetans were in the first place instigated by the Chinese to keep foreigners out of their country. Chinese statesmen had seen the result of allowing western

merchants to settle in an eastern country, or even to visit its ports to carry on trade. However this may be, it is certain that after the expulsion of the Jesuits and Capuchins in 1740, foreigners were most rigorously excluded.

No other European was able to visit Lhasa till the year 1811, when an Englishman, the first of his nation to accomplish the feat, succeeded in entering. The name of the adventurous Englishman was Thomas Manning; and he owed his success entirely to his own courage and wit, without help from any government or society.

Making his way into Bhutan, one of the southern Himalayan states, he managed to get as far as Parijong on the frontier of Tibet. Farther he could not have got had it not been for a lucky accident. He was travelling as a doctor; and the general of some Chinese troops with whom he came in contact, being ill, was glad of his assistance. The troops were going to Lhasa, and of course the general's doctor had to go with them. Thus, at last, an Englishman stood within the sacred city.

Manning stayed in Lhasa for four months, becoming friendly with many of the Chinese and Tibetan officers, and even being presented to the Dalai Lama himself. The Dalai Lama's age was only seven years; but Manning was struck by the beauty and intelligence of his face.

The presence of a foreigner, however, was most displeasing to the people of Lhasa, a large proportion of whom were priests or lamas. Being warned that he was in the greatest danger, Manning made his way back into India.

He does not seem to have been much impressed with either the Tibetans or their capital. He speaks of their unimaginable dirtiness, of the meanness of the houses and streets, of the swarms of horrible dogs, many of them suffering from loathsome diseases, of the crowds of monks surging around Potala, the palace of the Grand (or Dalai) Lama. The palace itself he describes as an imposing mountain of building, quite dwarfing the city.

Lhasa was not again visited by Europeans till the French missionaries Huc and Gabet succeeded in entering it disguised as lamas, in the year 1846. Their march across China and Mongolia lasted for eighteen months, and was one long-continued hardship. Though their reception at Lhasa was kindly and courteous, they were not allowed to stay longer than a month, but were compelled to return to China. Gabet died from an illness brought on by the privations through which he had passed, but Huc lived to write an account of their experiences. Since that date no European foot trod the streets of Lhasa until Sir Francis Edward Younghusband—then

Colonel Younghusband—entered the city as a conqueror in effect, though not in name.

There is little doubt that it was mainly due to the invasion of Tibet by the Gurkhas of Nepaul in the eighteenth century that the southern frontier of the country has been so jealously guarded. The Tibetans had to beg assistance from the Chinese; and the assistance was promptly given. An army of nearly a hundred thousand Chinamen fell upon the Gurkhas and drove them back into their own country with heavy loss.

Having delivered the country, the Chinese stayed to protect it, warning the Tibetans to have nothing to do with the English, whom they accused of encouraging the Nepaulese in their invasion of Tibet. This was the more unfortunate as, only a few years before, a partly successful attempt had been made by the great Indian Governor, Warren Hastings, to establish friendly relations with the Tibetans.

Seeing that Europeans were excluded from the country, it occurred to Major Montgomerie, of the Royal Engineers, to train some native Indians to do the work of explorers and surveyors. The names of these men had to be kept secret, both to guard them from the attacks of fanatics, and to enable them to carry on their work unsuspected.

One of these men, known as the 1st Pundit, entered the country as a merchant, with boxes full of the things usually imported from India, such as silks, cloth, rice, indigo, coral, sugar, and spices. The boxes, however, had false bottoms, under which were hidden the pundit's surveying instruments.

The explorer's method of keeping count of the distance he travelled was most ingenious. He took great care to keep his paces of the same length, counting up to a hundred and then dropping a bead of his Tibetan rosary.

In order to keep his notes safe from officials who might search him, he hid them in his prayer-wheel. He succeeded in reaching Lhasa, where he saw the Dalai Lama, and then explored much of the course of the Upper Brahmaputra or Sanpo.

His brother, the 2nd Pundit, had in the meantime been exploring Western Tibet, visiting towns quite unknown to Europeans, and some of the Tibetan gold-mines.

Colonel Montgomerie sent the same two men on another journey of exploration in 1867, together with a companion trained in the same way. The three men disguised as traders, had a most interesting time, passing through a part of the country of which nothing was previously known. They came upon vast numbers of wild animals—wild asses, yaks, antelopes, wolves, and hares. They

reached the chief gold-field, and were able to purchase some of the precious metal for pieces of coral.

Their description of the attitude in which the Tibetans sleep is most amusing. Rich and poor kneel with their elbows resting on the ground, and their noses almost between their knees, and pile upon their backs all the coverings they can find.

Another of Montgomerie's explorers was a native of Tibet, carefully trained as had been the Indian pundits. Arriving at Shigatse, on the Sanpo, he ascended that river to its source. His food and other supplies were carried on the backs of native sheep, as no other animals, except perhaps yaks, could have borne the intense cold or have found food in the rocky wildernesses into which he penetrated.

First of all Europeans, or those associated with Europeans, he discovered the lake Tengri Nor, north of Lhasa. He speaks of hot-water springs in the mountains, the shafts of which, in the winter, are encased in hollow columns of ice.

Proceeding to the northward over a desolate plateau, he was attacked by a band of thieves and robbed of everything he possessed. Without equipment or supplies it was impossible to go forward, and exceedingly difficult to retrace his steps. He succeeded, however, in winning back to India after many hardships, bringing with him

the record of a careful survey of a large section of hitherto unknown country.

Colonel Prejevalski's journeys have been mentioned in another section of this book ; and since in this section we are more concerned with travellers who entered Tibet from the south, it will perhaps be sufficient to note that he penetrated to within a month's journey of Lhasa in the year 1872. The collapse of his baggage-animals compelled him to turn back ; but in 1880 he got within one hundred and seventy miles of Lhasa before being stopped by the Lamas.

We have not space to follow the wanderings of the many explorers who from different points penetrated into the bare uplands of Northern Tibet, or crossed it from north to south or from west to east. Interesting though their accounts of the country are, to report them in detail would be wearisome.

We must now try to trace the course of the events which made necessary the despatch of Colonel Younghusband with a British force through the Himalayan passes into the Forbidden Land.

After the war with the Gurkhas of Nepaul the Tibetans shut themselves up more exclusively than ever, being, as we have already seen, encouraged in that course by their Chinese suzerains.

Before the war, Warren Hastings had almost

succeeded in establishing an understanding with his northern neighbours ; but after the war nothing of the kind was possible. No Viceroy of India considered it of any use to try to bring about a better state of things until 1886, when Lord Dufferin gave permission to Mr Colman Macaulay to enter the country and try to establish trade relations with the Tibetans.

The Chinese authorities, however, strongly objected to the proposed mission ; and, since we wished to preserve friendly relations with the Celestial Empire, with which we were carrying on delicate negotiations with regard to the Burmese frontier, Mr Macaulay was recalled when about to join his advanced party in Sikkim.

In consequence of this action the Tibetans thought we were afraid of them and the Chinese, and marched into Sikkim with an army, taking up a strong position in territory under our protection. There they stayed for two years, while we in vain pleaded with China to compel them to withdraw.

At last, in 1888, seeing that China would or could do nothing, a British force advanced and captured the position, pursuing the fleeing Tibetans some distance into their own country. Then, instead of coming to an understanding with the Tibetans themselves, we entered into a long and vexatious negotiation with China concerning Sikkim and the Tibetan frontier.

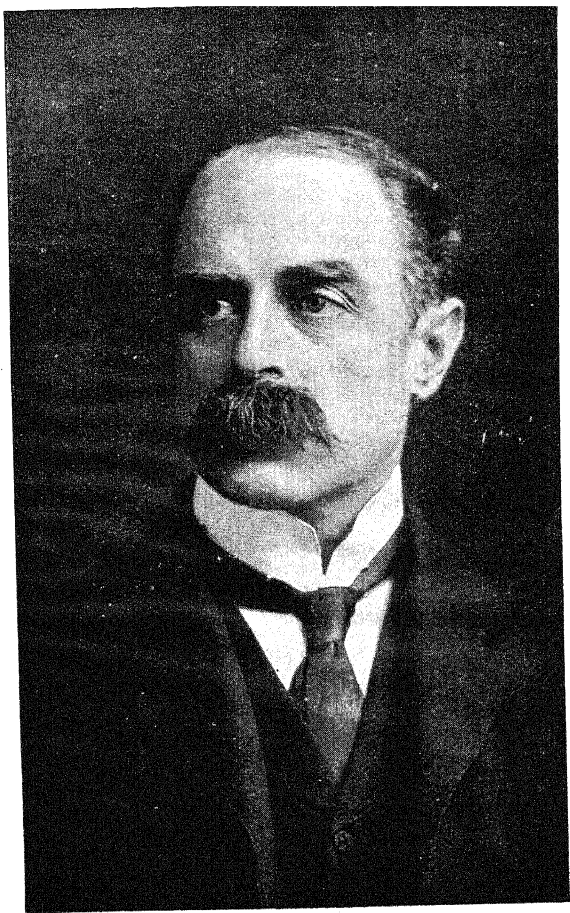
Two years were consumed before these questions were settled, and three more passed before the regulations controlling the trade between India and Tibet were drawn up at Darjeeling.

Shuffling on the part of China and weakness on the part of Britain had been a most edifying spectacle for the Tibetan delegates, the principal of whom was treated with scant respect and turned into a determined enemy. He was not even asked to sign the treaty, and the Tibetans afterwards refused to recognise it, building a wall at a short distance from the Customs House at Yatung, which by the treaty was established as the trading-post, and permitting no one to pass.

The British government met these actions with further protests, but in the end allowed the Tibetans to have their way, thus increasing their contempt for everything British. So far did their contempt take them that they threw down British boundary pillars, drove their own flocks and herds into pastures from which they were debarred by the treaty, and established military posts on territory not their own.

In 1901, Lord Curzon, who had become Viceroy, sent a dispatch direct to the Dalai Lama at Lhasa, ignoring for the first time the Chinese government, which had too long made impossible any understanding with the people of Tibet.

As might, perhaps, have been expected, the



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letter was sent back unopened, the Dalai Lama's excuse being that he had no power to enter into any negotiations without the consent of the Chinese government.

A further source of possible danger speedily became apparent. Russia is almost as much Asiatic as European, and many millions of her subjects are Buddhists; so that it was much easier for her to establish good relations with the Tibetans than for ourselves. The Tibetans were persuaded by Dorjief, a Russian of Asiatic race who had lived for twenty years in Lhasa, working all the time in the interest of the Czar, to rely upon the northern power for help should the British invade the country.

Two missions were sent to the Czar bearing letters and presents from the Dalai Lama, one in 1900, and a second in 1901; and it became evident that Britain must act at once, unless she wished Russia to gain the ascendancy in Tibet, and so cause more trouble.

Lord Curzon decided to send a mission to Khamba Jong, well within the Tibetan frontier, and he chose as British Commissioner Colonel Francis Edward Younghusband.

Francis Edward Younghusband is himself the son of a soldier, Major-General John William Younghusband, and was born at Murree, in India, in May 1863. As is usual in such cases he was

sent home to be educated, becoming a scholar at Clifton College, and then passing to Sandhurst for instruction in his future profession.

Obtaining a commission in the 1st Dragoon Guards when he was nineteen, he was sent out to India and stationed at Rawal Pindi in the Punjaub. Here, at the age of twenty-one, he had his first taste of mountaineering in Asia. Having obtained a few months' leave from his regiment, he made a tour among the Himalayas. His uncle, Robert Shaw, who had been a great explorer, had lived for some years in this district; and Frank Younghusband came upon many traces of the traveller—men, and books, and maps, besides accounts of the various journeys he had made.

It is little wonder that amidst such associations the mind of the nephew should be influenced by the records of the uncle's work. So fired was he with the wish to be an explorer that he set off into the mountains, climbing passes and diving into valleys, traversing forests and plodding through soft snow against an icy wind with a burning sun overhead.

His next expedition, in 1886, was undertaken with Mr James, Director-General of the Indian Post Office. Setting out from the port of Newchwang, in Manchuria, they travelled to Mukden, the capital, in mule carts, through a

fertile and well-cultivated country, where the farmhouses reminded them of those of England. The inns were fairly comfortable, but dirty, the travellers sleeping in a row on a raised platform.

Leaving Mukden with a mule caravan, they travelled through a lovely district, beautiful with flowers and ferns. The quiet hospitality of the country was very different from the vulgar curiosity of Mukden, where gaping crowds had followed them about and even spied on them when eating or washing.

There were, however, two great drawbacks—the incessant rain and the lack of milk and butter. This part of Manchuria is really a Chinese colony, and the Chinese never drink milk.

The travellers were in search of the Ever-White Mountain, visited years and years before by Jesuits, but never since seen by Europeans. Their course lay up the valley of the Yalu—the river afterwards so well known in the Russo-Japanese War—through dense forests. They were tormented by clouds of mosquitoes, and had to sleep at night packed like herrings in a barrel in the huts of the Chinese sable-hunters.

Abandoning their mules because of the deep swamps, the travellers struggled on, till at last they reached their goal. The mountain was not so high as they had expected ; but its sides were lovely with grassy slopes and summer flowers,

and on its summit was a circular lake, proving that it was an extinct volcano. From the lake flows the Sungari, one of the principal feeders of the Amoor; and down the valley of this river James and Younghusband journeyed to Kirin, passing through a country of wonderful fertility colonised by hard-working Chinese.

Leaving Kirin, of which they did not think very much, though well entertained by the manager of a gun and rifle factory, they set out for Northern Manchuria, travelling over roads axle-deep in mud.

Passing into the grassy plains of Mongolia, they advanced through beautiful and fertile country into Russian territory, where they were hospitably received. They found the Russian colonists of these far eastern districts of Asia greatly inferior to the Chinese in energy and enterprise.

They now turned back towards Peking, travelling under wintry conditions and crossing the rivers upon firm ice. The cold was intense, but, as in Canada, by no means trying or unpleasant, unless a wind happened to be blowing. The enormous traffic on the roads beat the snow hard and flat and made progress easy.

In reading of Sir Ernest Shackleton's dash for the South Pole, mention was made of the Manchurian ponies with which the expedition was provided. These ponies are marvellously hardy.

Sir Francis Younghusband speaks of their standing out all night without the slightest covering in cold so intense that their backs were covered with hoar-frost.

After visiting the end of the Great Wall of China, where that wonderful piece of engineering work, thirty or forty feet high, fifteen feet thick, and built of solid stone, comes down the hills and through the valleys to the seashore, Lieutenant Younghusband journeyed to Peking, where he rested for three months.

Learning that Colonel Bell intended to travel from Peking across China, the Gobi Desert, and Chinese Turkestan to India, Lieutenant Younghusband resolved to ask that officer to allow him to accompany him, obtaining extended leave from the Viceroy of India.

Colonel Bell suggested that they should travel by different routes, and meet at Hami, on the western side of the desert; and this arrangement was finally made. As a matter of fact they never again caught sight of each other till they reached India.

The route over which Lieutenant Younghusband was to travel had never before been followed by any European. It included a thousand miles across the desert, as well as a difficult and hazardous crossing of the Himalayas.

Leaving Peking, the traveller arrived at the busy

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town of Kalgan, where he purchased necessary stores. His main difficulty was that he could find out nothing about his route—nobody seemed to know anything about it, though caravans were frequently leaving a town a few marches from Kalgan to cross the desert.

From Kalgan he pressed on into Mongolia, passing by a gate through the Great Wall, here built of mud!

The plains of Mongolia were crossed and the desert march commenced. Lieutenant Young-husband had with him eight camels with their attendant, who acted as guide to the expedition, a Chinese servant, and a Mongol who assisted with the camels.

The country now became gradually more desolate, even the flocks and herds and felt tents of the Mongols were seen but seldom; and at last the dreary, gravelly wastes of the desert swallowed the explorers up.

They travelled usually from three in the afternoon till about midnight, partly to escape the heat of the day, and partly to allow the camels to crop the sparse herbage in the daylight.

So they continued for ten weeks, following always the same routine. The most noticeable features were the extreme dryness of the air, and the violent, sand-laden winds which sprang up before midday and lasted till sunset, sometimes

blowing so hard that it was impossible to advance. But the trials of desert-travelling have already been mentioned in speaking of Dr Sven Hedin, and need not be given here in detail.

Passing over the end of the Tian-Shan Mountains, Lieutenant Younghusband reached Hami in Chinese Turkestan, becoming acquainted here with a race previously unknown to him—the Turkis. Turkestan is a conquered country, and every town is double—a strong, walled Chinese town being built beside the open Turki town.

From oasis to oasis, across stretches of gravel and sand, then through more attractive and cultivated land teeming with fruit and grain, Lieutenant Younghusband passed through this land of extremes—fertility and desert almost side by side, scorching heat and frigid cold—to Kashgar and Yarkand. Procuring ponies and men in the latter town, he set out to cross the Mustagh Pass into Kashmir. The men with him were natives of Ladak and Baltistan, mountaineers born.

The route lay over snow-clad heights, among pathless mountains infested by robbers, and up the valleys of turbulent streams, some of which were previously unknown to European geographers. The tremendous peak of K2 in the Karakorams, with its sheath of ice, was passed within a few miles. This mountain is second only to Everest in altitude.

Younghusband's story of the journey over the slippery ice of the glacier by which they ascended to the summit of the pass, and of the perilous descent on the southern side, makes thrilling reading. The ponies had to be left behind, and steps cut in the ice-slopes; but at last all difficulties were conquered, and Kashmir was reached. Having left Pekin on 4th April, Lieutenant Younghusband drove into Rawal Pindi on 4th November, after travelling nearly seven thousand miles through the heart of Asia—a remarkable achievement for a man only twenty-four years of age.

The journey attracted much attention, and the young officer was presented with the Gold Medal of the Royal Geographical Society, and invited to read a paper before the members.

Succeeding years served to show that the pluck and readiness of resource, the grit and perseverance which had made this journey possible, were to be exercised in undertakings, not perhaps so picturesque, but of immense value to the government of India, and to geographical science.

In the Pamirs, in Chitral, in Hunza, and in Rajputana, these qualities were put to the test in exploration and in administration. Raised to the rank of captain in 1889, Younghusband entered the Indian Political Department in 1890, and acted as political officer at Hunza and at Chitral. His ability as a writer induced the *Times* to appoint him

special correspondent during the Chitral Expedition of 1895 ; and his nervous, vigorous articles gave English people a more correct idea of that wild valley on the south-eastern slopes of the Pamir than they had had before, and some notion of the business of our country with its inhabitants.

The next two years were spent chiefly in the Transvaal and Rhodesia ; and the resulting book, *South Africa of To-day*, is exceedingly interesting as showing the position of affairs before the outbreak of the Boer War.

Captain Younghusband was now appointed political agent in Haraoti and Tonk, Rajputana—a most responsible position. In 1901, in recognition of his services during the Great Famine of 1899-1900, he was decorated with the Kaiser-i-Hind Medal of the 1st Class, bestowed only on those whose services to the Indian government have been so valuable as to require official recognition. The previous year he had been raised to the rank of Major of the Indian Staff Corps ; and in 1902 he was appointed British Resident at Indore.

This is in brief the career of the man upon whom the choice of the Viceroy of India had fallen to carry the negotiations with the Tibetans to a successful conclusion and, by force of arms, if necessary, show them that the British raj was not to be trifled with, nor British subjects injured or annoyed with impunity.

The British Commission proceeded to Khamba Jong, but was there treated with contempt by the Lhasa authorities, who sent officers of inferior rank to carry on the discussion of the situation. Even these men at last declined to do or say anything more, and shut themselves up in the Tibetan fort.

The Tibetans were relying upon help from Russia, and began to gather together an army to prevent our advance beyond Khamba Jong. Later in the year they seized and beat two British subjects, shortly after which the Commission was withdrawn, an advance as far as Gyangtse having been decided upon.

The British force accompanying the Commissioner was now raised to two thousand five hundred men, under the command of General Macdonald, and the Tibetan frontier was crossed on December 13th. The road to be traversed was about three hundred and eighty miles in length, over most difficult passes, through some of the grandest scenery in the world. The first pass crossed by Colonel Younghusband's force—the Jelap La—is over fourteen thousand feet above sea-level.

Seven days later the Tibetan fort of Phari Jong was occupied without resistance; and about three weeks later the pass of Tang La was climbed to the plateau above—over fifteen thousand feet above sea-level.

Leaving here a force to occupy the fort of Tuna, the main body retired to the Chumbi Valley to go into winter-quarters.

The Chumbi Valley lies nearly twelve thousand feet above sea-level ; so that its climate is in great contrast with that of the burning plains of India. It has a fertile soil, and abounds in wild flowers, rhododendrons, and magnificent pines.

The fortress of Phari Jong, which the Tibetans evacuated without firing a shot, is a huge building of six stories, with heavy stone walls and towers. The British troops found it full of worn-out old arms and gunpowder, and reeking with the filth of ages.

The severity of the wintry weather and the enormous difficulties of the mountain road were enemies much harder to conquer than the Tibetan soldiers. Hundreds of transport animals, yaks and bullocks and mules, died of over-exertion or disease. All the supplies for animals and men had to be carried over the passes on pack-animals, or on the backs of the Balti coolies. Had the Tibetans been at all versed in the arts of war they could, by cutting the long line of communication, have made the British advance impossible.

A great force of the Grand Lama's soldiers gathered at Guru, a few miles beyond Tuna, and became daily more threatening, ordering Colonel Younghusband to retire. The lamas solemnly

cursed the British force for five whole days ; but so far from suffering from this religious exercise was the British Commissioner that he made use of the time to come to an agreement with the Bhutanese, by which he secured their friendship and the certainty that his right flank and line of communication would not be attacked from their country.

At last, on the morning of the 30th of March, the whole force advanced toward the Tibetan position. Horsemen came riding up, ordering them to go back ; and the Lhasa Depon or commandant came in person to argue with Colonel Younghusband.

But the time of delay on the part of Britain was over ; Colonel Younghusband told the Depon that the escort must go forward, and advised him to prevent his men from attacking it.

The official promised to do his best, and returned to the Tibetans, who began to occupy the strong positions on the hillsides. From these positions they were driven by the Ghurkas and Sikhs, who walked right up to the breastworks without firing a shot.

It looked as if the Tibetans were again about to surrender without a contest, and the sepoy had begun to collect the arms of the mob of men gathered together in the centre of the position when, without warning, the Tibetan soldiers made

a furious attack. This, though hot while it lasted, was easily beaten off ; and the Tibetan army, now a disorganised mob, was soon in full retreat, nearly seven hundred being slain in the fight and the pursuit.

In spite of their defeat, however, the Tibetans showed themselves anything but cowards, walking sullenly away instead of running. Afterwards, in the hospitals, their wounded exhibited a courage under operation and a calm endurance of pain that excited the admiration of those who saw them.

A skirmish occurred near Samando on the 7th of April, and a regular pitched battle at Kangma on the 9th, where the 8th Gurkhas distinguished themselves, during a snowstorm, by dislodging the enemy from a ridge two thousand feet in height.

Gyangtse was reached on the 11th, and occupied without trouble. Only one man of General Macdonald's force had been wounded during the whole advance from Tuna.

The Tibetans now seemed to have been brought to reason, and the Chinese Amban, or Viceroy, was expected to come to the British camp and arrange terms. General Macdonald, with a considerable portion of the troops, returned to Chumbi, leaving Colonel Brander in command of the escort.

Learning that a strong force of Tibetans was holding a fortified position at Karo La, thirty miles farther towards Lhasa, Colonel Brander advanced with about four hundred men to clear them away, as they threatened the line of communication and barred the road to the capital. In the action which followed the enemy were defeated and driven out, but Captain Bethune and seventeen men were killed. The Tibetans had begun to fight in earnest.

This was shown even more by their attacks upon Kangma and Gyangtse, attacks which, though repulsed with heavy loss, were delivered with the utmost courage and determination.

The Phari Jong (or fort), which had been left by the Commission because of its dirt and inconvenience, was now occupied by a large force of the enemy, who bombarded the post held by the British and made desperate attacks upon it, besides trying to cut the line of communication. Many of the sepoys were killed and wounded, besides one English officer, who was shot through the head.

Then General Macdonald arrived with reinforcements, fighting a sharp battle on the way. This was towards the end of June. The Tibetans now wished to parley, but, as usual, would come to no definite decision; so that the Jong had to be stormed and taken. This was done after a

most heroic defence, the British troops losing forty-three men, killed and wounded.

A halt was made to allow of delegates being sent from Lhasa, but, as none appeared, on the 14th of July a start was made for the capital. A half-hearted second action was fought at Karo La, where Captain Bethune had been killed; but this was the last effort the Tibetans made to restrain the Commission by force of arms.

Their delegates resorted to entreaties and protestations; but Colonel Younghusband was immovable—the settlement could now be made only at Lhasa itself.

The crossing of the Sanpo was not accomplished without loss, Major Bretherton and two Gurkhas being drowned by the capsizing of two of the boats.

Lhasa was now only forty-three miles away; but the Dalai Lama had evidently not yet given up hope of turning back the expedition. More and more important officials were sent to entreat Colonel Younghusband to halt, till at last the Chinese Amban himself came out with a sealed letter from the mysterious ruler. It was all of no avail; nothing could induce to turn from the accomplishment of his mission the patient, determined man who represented Britain in this remote corner of the earth.

The city of Lhasa itself was found to be dirty

and squalid; but the Potala—the residence of the Grand Lama—is a magnificent building of great size and beauty, solidly built on a hill overlooking the town, its golden roofs gleaming in the sunlight.

Lhasa had been reached at last by Europeans, and its veil of mystery torn aside. The Dalai Lama himself had fled; but after many delays the four Shapés, or principal officers of the government, were empowered by the Tsong-du, or National Assembly, to sign the treaty which Colonel Younghusband presented to them in the presence of the Chinese Amban.

This treaty, the assent to which was won from the Tibetan authorities by the firmness and tact of Colonel Younghusband, is of the utmost importance, as it will form the basis of all future dealings between India and Tibet.

It provides, briefly, that the Tibetans shall enter into political relations with no other Power except with our permission, and that no concessions for mining, railways, or telegraphs shall be granted without our consent. It provides, also, for the establishment of trade marts, and regularises the methods of communication between India and Tibet. An indemnity to be paid by the Tibetans was demanded and conceded, and the right of the British to occupy the Chumbi Valley till the terms of the Treaty had been

carried out was recognised by the Tibetan signatories.

The task entrusted to the British Commissioner was accomplished; Colonel Younghusband had found and followed the path to the most jealously guarded and least accessible city in the world, assisted in the carrying out of his mission by the skill and bravery and resource of General Macdonald and his soldiers, British and Indian.

Of the work he has since done for the Indian Government it is unnecessary here to speak; but never did any man better deserve the many honours which have been showered upon him.

V Mr Ewart Scott Grogan

WE have seen in a previous chapter how difficult a task Lieutenant Boyd Alexander set himself when he determined to cross Africa from the Niger to the Nile, braving infinite peril from fever, from hardship, from savage tribes, and from wild animals. It might seem on first consideration that to cross the Dark Continent from south to north would be a still more arduous and dangerous undertaking, as the distance is much greater and the countries to be traversed are inhabited by races with which we have quite recently waged war.

Until almost the end of last century, indeed, such a journey would have been impossible ; no European traveller would have been permitted to journey through the Eastern Soudan, where the dreaded Khalifa held his evil sway, and the war-like tribes between the Limpopo and the Nile barred all intrusion from the south.

Let us examine briefly the remarkable series of events which have made such mighty changes in the heart of Africa that, except for the toil and expense, and the danger inseparable from travelling in tropical countries, a journey from

the Cape to Cairo, and so to the Mediterranean, has become an undertaking little more hazardous than a journey from London to Edinburgh two hundred years ago.

Two events stand out beyond all others as contributing to the safety and comparative comfort of the African traveller of to-day along the Cape to Cairo route. These are the reconquest of the Egyptian Soudan by Lord Kitchener and the British and Egyptian forces, in 1898-99, and the formation of the British South Africa Company in 1889, leading to the opening up and occupation of the country now known as Rhodesia.

No account, however brief, of the route from the Cape to Cairo would be complete without reference to the great man who first conceived the possibility of constructing a railway from the extreme south to the north of the continent. Such a railway he calculated would not only enable travellers to journey through the continent, but would form the backbone of a continental railway-system, with branches running east and west from it to the coast, conveying the produce of the country to the seaports, and taking back in exchange the manufactured goods for which so large a market might be found among the teeming population of the interior.

The originator of the scheme was Mr Cecil J. Rhodes, the man to whom, above all others

Britain owes the African province of Rhodesia, with its valuable deposits of gold and copper and coal, and its almost limitless possibilities for European colonisation.

It is worthy of note that Mr Rhodes was deeply interested in the successful attempt of Mr Grogan, the subject of the present sketch, to travel through Africa from south to north. In a preface to Mr Grogan's book, *From the Cape to Cairo*, the 'empire-builder,' as Cecil Rhodes is often called, tells how greatly he was encouraged in the task to which he had devoted his life, by the knowledge that a young Englishman had traversed on foot the route near which his projected railway and telegraph line would run.

Mr Grogan, whose work as a pioneer and explorer was of sufficient merit to win commendation from so eminent a man, was, at the time of the commencement of his perilous journey, barely twenty-four years of age; but he was already a seasoned traveller, and knew a great deal about South Africa.

His education had been that of the majority of British lads of good family and comfortable circumstances. After a creditable course at Winchester School, he proceeded to Jesus College, Cambridge.

Two qualities of the utmost value to the pioneer and sportsman Mr Grogan possesses, either by

inheritance or by training—steadiness of nerve and readiness of resource. Add to these uncommon physical strength and endurance, more than a fair share of British grit and doggedness, and a manner at once resolute and genial, and you have a sufficient idea of the personality of the man who won for the British race the honour of being first of all nations to send a representative from end to end of Africa.

Mr Grogan went first to South Africa in 1895, travelling from Capetown to Mafeking by rail, and from Mafeking to Bulawayo in Rhodesia by coach.

Those who travel in comfort nowadays between Capetown and the old Matabele capital in luxurious carriages which cover the distance in little over two days, find it difficult to realise that, a few years ago, by far the greater part of the country through which the railway runs was unexplored land, the domain of savage tribes and the home of countless wild animals.

Even in 1895, when Mr Grogan passed along the route, the journey from Capetown to Mafeking took four days and three nights; and from Mafeking, that little frontier town afterwards famous for its defence under Major Baden-Powell against a strong Boer army, the weary traveller was jolted for nine unspeakable days and nights in a primitive coach over an awful road.

The occupation of the country north of the Transvaal by the Chartered Company, as the British South Africa Company is usually called, was hastened by the discovery of a rich gold-bearing region in Mashonaland, part of the country between the Limpopo and the Zambesi. Here, in 1871, the ruins of an ancient city of great size and strength were found—ruins which appeared to those who examined them to be of Asiatic rather than of African origin. Some people were quick to suggest that this city, so near to a rich gold-field which had evidently been worked in past ages, was the ancient Ophir mentioned in the Bible story of King Solomon. However this may be, there is no doubt that the ruins of Zimbabwe, as the city is named, are exceedingly interesting and of great antiquity.

Before, however, we say anything of the history of Rhodesia, of which Matabeleland and Mashonaland are portions, and of the wars with the Matabele, it is necessary that you should know something of the exploration of that part of Africa.

It is hardly believable, in the light of our present extensive knowledge of Africa, that until the latter half of the nineteenth century our information concerning the interior was of the vaguest possible description. The existence of the Congo was not even imagined; the sources of the Nile were the

subject of the wildest speculation ; nothing was known of those inland fresh-water seas, Tanganyika, Nyasa, Victoria Nyanza, and Albert Nyanza, of which Victoria Nyanza alone has an area little inferior to that of Lake Superior.

It was, as all the world knows, the intrepid journeyings into the unknown interior made by Dr Livingstone which first aroused interest in the problems of South and Central Africa. Going out as a missionary to South Africa in the year 1840, this brave and gentle Scotsman began in 1849 those wonderful journeys which made him famous.

Pursuing always the same kindly and gentle method with the natives, Livingstone won their lasting affection, and was assisted by them in every way within their power to make extensive explorations of regions never before visited by men of British race, and seldom even by the Portuguese, who had held nominal sway over much of the country for nearly four hundred years.

Some of his most successful explorations were connected with the district of which we have just spoken—Rhodesia, where he traced the course of the majestic Zambesi, and gazed with awe upon the stupendous Victoria Falls.

An expedition sent out under Henry M. Stanley to search for Livingstone, whose two years' silence had alarmed his numerous friends in Europe and

America, found him at Ujiji, on the eastern shore of Lake Tanganyika. Another later expedition met his body being borne by devoted followers to the coast, thence to be sent to England. The leader of the expedition, Lieutenant Cameron, took up the examination of the course of the Lualaba, a river which Livingstone had discovered, and traced it farther north; but it was Stanley who, by following the river, one of the largest in the world, to its mouth on the western coast, really proved that the Lualaba was the headwaters of the Congo.

A society, having King Leopold of Belgium at its head, was now formed to open up Africa to trade and civilising influences; and in the scramble among the powers of Europe for portions of Africa, which occurred a few years later, a large part of the basin of the Congo was placed under Belgian 'protection.' What that 'protection' has meant for the native peoples of the country, Mr Grogan, as you will see later on, was to some extent able to judge.

In the meantime events were happening in Egypt and the Egyptian Soudan, which for many years turned back the tide of civilisation from the equatorial provinces of the Khedive.

Much trouble occurred also with the Matabele before they settled down comfortably and peacefully under British rule. They are a vigorous and

warlike nation, an offshoot of the Zulus; and long before the coming of the British they had invaded the country and conquered the Mashonas, who were then in possession. The Mashonas are a peaceful people, much more civilised than their conquerors. They were skilled workers of iron, and made a serviceable native cloth. They also possessed vast herds of cattle.

The British were at first well received by the Matabele, owing to their leader, Dr Jameson, relieving King Lobengula's gout; but when they began to interfere between the Matabele and their Mashona slaves, serious trouble arose.

A body of frontier police, supported by volunteers from among the settlers, fought several fierce battles with the Matabele before the savage warriors gave up the struggle as hopeless—not in time, however, to save the lives of Major Alan Wilson and his gallant little band, who made a heroic stand against overwhelming odds at the Shangani River.

In 1896 war broke out again; and in this second Matabele war Mr Grogan took part as a volunteer, being awarded a medal in recognition of his gallant service.

The war was partly due to the outbreak of the rinderpest, which carried off nearly all the cattle of the Matabele, the people being persuaded by their 'witch-doctors' that the British

were responsible for the disease. Dr Jameson had gathered together all the white police for his raid into the Transvaal to protect the English of Johannesburg; and the settlers had at first a very bad time of it, various outlying and isolated stations being destroyed and the inhabitants massacred.

The colonists were, however, in the long-run successful in driving back the savage hordes, though, even with the aid of volunteers such as Mr Grogan, they were outnumbered ten to one. In the end the war was brought to a close by the efforts of Mr Rhodes, who, alone and unarmed, ventured among the Matabele in the Matoppo Hills, where his body now rests, and made terms with the chiefs.

Mr Grogan speaks humorously in his book of the famine prices paid in Bulawayo about this time for some of the commonest necessities. A cauliflower cost thirty-six shillings, and a bottle of beer ten shillings and sixpence. This was of course accounted for by the difficulties of transport.

It might be thought that such exciting experiences would have cured Mr Grogan for ever of his fancy for African travel; but there is a certain charm about the Dark Continent—a sense of mystery pulsing through even its most commonplace everyday life—the calling of the

wilderness to those who have once known its infinite variety, its spaciousness, its freedom from the trammels of civilisation, its dangers—even its privations—that holds for all time those who have once come under its influence.

It is not very astonishing, therefore, that in less than a year after returning to England, Mr Grogan once more set out for South Africa. His object was to take up again his journey from south to north at the point to which he had reached a year before, and continue it through the continent to Cairo in Egypt.

The difficulties of such a route were enormous; for, until he reached the head of Kitchener's railway at Khartoum, which was of such importance in the overthrow of the Khalifa and the reconquest of the provinces abandoned in 1882, he would have to travel on foot.

The value of railway construction in Africa may be judged if we consider the immense difficulties of transport in most parts of that continent. Africa is a compact land mass into which penetration from any point is naturally difficult. Though it possesses four of the largest rivers on the earth's surface, and numerous large lakes, transport by water is made difficult by the rapids and waterfalls which interrupt the course of even the most important rivers, and often by the absence of native boats.

Horses and cattle can be used in various parts of the south, and camels in some parts of the north; but in many of the richest and most productive districts the bite of the poisonous tsetse-fly is fatal to all draught-animals except the donkey, which is neither sufficiently strong nor sufficiently tractable to be of very great service.

The usual baggage-animal in these wide regions is the black porter; and the traveller or trader who wishes to make a journey of any length has to engage a numerous company of these human beasts of burden. Each man can carry during a day's march a package weighing four or five stones, plodding on with a wonderful endurance that the stronger white man can never hope to equal. Many of these men refuse to stir unless their wives are allowed to accompany them; and some even bring their slaves to assist in bearing their burden.

Several of the most frequented trade routes lead through districts the inhabitants of which are quite untrustworthy; so some of the porters are required to act as a bodyguard to the rest of the company.

You may wonder why it was necessary for an ordinary tourist like Mr Grogan to take with him such heavy bales of goods that a small army of porters was needed to carry them. You must

remember, however, that for weeks, sometimes for months, he would have to travel through districts where ordinary money is unknown, and amongst tribes whose friendliness can be purchased only by judicious presents. He had to take with him such things as these primitive races value—steel and copper wire, cloth of various kinds and colours, beads of all sizes and tints. He had to take, not what he thought would be sufficient, but what must have appeared at first sight enormously too much; for, did he happen to break down through fever or accident, or be delayed by any of the fierce tribal wars which are still so frequently waged, his supplies might be exhausted, leaving him stranded among a people who would have no sympathy with his sufferings, who could not be counted upon to help him unless they could see a prospect of profit for themselves, and who would usually resent his presence among them.

Besides this store of goods to barter for food and assistance, he had to carry with him his camp equipment, his tents, his pots and pans, his guns and ammunition, and the food necessary while travelling over districts either without population or devastated by tribal wars.

African porters as a rule demand payment in advance; and the traveller must be constantly on his guard against idlers who mean to desert

at the first opportunity, and against semi-invalids who will break down at the first difficult place.

He will usually do fairly well if he can manage to secure the services of a good headman; and he will be wise to leave in his hands much of the choice of suitable porters and guards; but if the headman is a scoundrel, as sometimes happens, the expedition is doomed to failure from the start. The duties of a headman are by no means light. He has to see to the distribution of the loads, to the choice of camping-places, and to the supplying of the company with food; he must be a clever linguist, familiar with most of the dialects of the tribes on the route, and he must be able to keep his men in good humour, settling disputes and adjusting grievances.

The regions through which Mr Grogan intended to travel are infested with wild beasts. Herds of elephants crash trumpeting through the forests; the sullen rhinoceros sometimes charges like a clumsy whirlwind through the camp; lions prowl and roar round the zareba of thorns by which the nightly halting-place is usually surrounded; and the harsh laugh of the hyena and the bark of the jackal make sleep an impossibility to the stranger. The dreaded African buffalo is met with in the sedgy lowlands, and poisonous snakes abound, while the rivers teem with hippopotami and crocodiles. Well has it been said that Africa is the Paradise

of the big game hunter. Herds of zebras, giraffes, antelopes, and deer abound in many parts, making often a welcome addition to the ordinary food of the expedition.

African roads are usually mere tracks, winding over the plains to avoid the swamps, zigzagging up mountain sides, crossing streams by dangerous fords, and worming into the depths of gloomy forests, where a way often has to be cut with infinite labour through the fast-growing tangle of shrubs and creepers.

Ten miles a day is a fair rate of progress; and even this cannot be always maintained, especially when the caravan passes through a populous district. The chief of every little tribe must be allowed to talk and examine and bargain, sometimes making exorbitant demands before granting free passage through his dominions. Added to all this is the danger arising from the deadly climate of the low-lying coastal regions, where fever and dysentery often lay the traveller low for weeks at a time.

You will now begin to understand the kind of enterprise contemplated by Mr Grogan and his friend Mr Sharp when they determined to travel from south to north by the track along which the Cape to Cairo Railway was expected to progress.

The first part of the journey, from Capetown to Bulawayo, had, as we have seen, already been

made by Mr Grogan, and he did not think it necessary to go over the route a second time.

From Capetown to Bulawayo is a distance of one thousand three hundred and sixty miles; and many years passed and many important events happened before the several stages of this railway were completed and opened to traffic.

The finding of diamonds and the rapid growth of the diamond-mining town of Kimberley made possible and necessary the extension from De Aar Junction, in the north of Cape Colony, to that town. The next extension was made to Vryburg near the frontier, between British Bechuana-land and the Transvaal.

The energy of Mr Cecil Rhodes and those associated with him in his efforts to open up Rhodesia, added the section from Vryburg to Bulawayo by way of Mafeking in November 1897.

In the meantime another line was being constructed to the heart of Rhodesia from the Portuguese port of Beira on the east coast; and this line, from Beira to Salisbury, a distance of three hundred and seventy-five miles, was opened on 1st May 1899, the connecting line from Salisbury to Bulawayo being completed by the beginning of October 1902.

Mr Grogan's journey, however, was commenced in February 1898, before the line from Beira to Salisbury had been taken farther than Umtali.



Photo: Elliott & Fry.
P.T.

Ewart Scott Grogan.

just over the frontier between Portuguese East Africa and Rhodesia, and about half-way to Salisbury. From Umtali the journey to Salisbury had to be completed by coach.

Before setting out on his northern tramp, Mr Grogan spent several months in shooting big game, having some marvellous escapes from wounded and infuriated beasts—escapes due in most instances to his coolness as a sportsman and his skill with the rifle.

If you turn to the map of Africa you will see that some distance up the coast from the Port of Beira is the delta of the Zambesi. On one of the mouths stands Chinde, the gateway to the British Central Africa Protectorate. This town formerly belonged to the Portuguese, but has been ceded to the British. From it steamers ascend the river, leaving the Zambesi at its junction with the Shiré, and ascending the latter river towards Lake Nyasa—though the occurrence of rapids interferes with navigation. It is the country immediately adjoining the Shiré on both sides, and a strip of fertile land along the western shore of the lake, which together form the British Central Africa Protectorate. Half of the eastern coast of the lake belongs to Portugal and half to Germany.

The beautiful lake Nyasa is three hundred and fifty miles long by from fifteen to fifty miles

wide; and the area of the whole Protectorate is about forty thousand square miles—over one-third as big again as Scotland,—and its population is nearly a million, of whom, however, Europeans number less than one thousand.

The opening out of this beautiful and fertile region, already becoming noted for its exports of sugar, coffee, tobacco, cotton, rubber, and ivory, was due in the first instance to the interest created by Livingstone's journeys and books. The majority of the British settlers are Scots.

Fine gunboats patrol the lake and the river, keeping order with the assistance of a small force of Sikhs and native soldiery.

The greatest difficulty and danger of the infant settlement was the active enmity of the powerful Arab slave-dealers, with whom many a sharp conflict took place.

Most of this was already ancient history when Mr Grogan journeyed leisurely to Karonga at the head of the lake, leaving the direct route at various points in order to visit places of interest, such as Blantyre in the Shiré Highlands, Zomba, where the work of government is carried on, Kotakota, once the headquarters of the Arab slave-trade, and Fort Johnston, the chief port on the lake, and the naval depot. He was entertained most hospitably by the settlers, and was frequently astonished at the homelike look which these

exiles had given to their houses and their surroundings.

A peculiar kind of fly, known as the 'kumgu-fly' is found only on Lake Nyasa. So enormous is the number of these small insects that they lie like a dark and festering snowfall on the ground and even in the houses, to the depth of a foot or more. The natives make them into cakes and eat them.

From Karonga to Kituta at the southern end of Lake Tanganyika there is one of the best-known roads in Africa. It is called Stevenson's Road, after the man who was mainly responsible for its construction. Over this road, two hundred and ten miles in length, the journey had to be made on foot ; and it was therefore necessary to collect a sufficient number of porters. This was a difficult matter, as most of the men were busy sowing seed at that season. While waiting, Mr Grogan passed the time by making shooting expeditions into the surrounding country.

As he returned to Karonga he had the good fortune to come across the small band of skilled mechanics who were constructing the telegraph line from Salisbury to Lake Tanganyika. They had already taken it as far as Karonga, overcoming tremendous difficulties in dogged British fashion.

Wooden posts are of no use as supports of

telegraph wires in Central Africa, as the white ants would quickly destroy them; and the line from Salisbury to Kituta is therefore carried upon iron posts. Since the straightest line is the shortest, the constructors deviate from the direct route only when faced by insuperable difficulties. The line is carried over hill and valley, across streams and ravines, through trackless forests and over quaking swamps, a wide strip of country being cleared for the purpose.

Four of Mr Grogan's porters belonged to the Watonga tribe, and these men accompanied him all the way to Cairo. But in contrast with their faithfulness must be placed the conduct of twelve men of another race who deserted before Lake Tanganyika was left. Such is the lottery of African travel.

The road from Karonga to Kituta presented little of interest; and during the last portion of it Mr Grogan was carried in a native litter, being prostrate and sometimes delirious with fever—that worst enemy of the African traveller.

The monotony of the long march was, however, broken by an excursion into the country of the Awemba, a strong and handsome race, who, under British rule, have abandoned their old practices of barbarous cruelty and are now devoting themselves to the tilling of their fertile lands and the manufacture of cloth from the bark of the

fig-tree. Several days were here spent in shooting excursions—lions, deer and buck of various kinds, and a rhinoceros falling to the sportsman's gun.

Taking boat at Kituta, Mr Grogan set out on his voyage northward along Lake Tanganyika, which provides a magnificent waterway four hundred miles in length. Only the southern end of the lake is in British territory, the land on the western side being part of the Congo State and that on the east belonging to German East Africa.

The steamer touched at some of the Belgian ports on the western shore, where Mr Grogan found the officials terrified by the rebellion of the native tribes, who were disgusted and wearied by their misrule. In striking contrast is the praise he gives to the German officials at Ujiji, that historic town on the eastern shore of the lake where Stanley found Livingstone. Mr Sharp had joined Mr Grogan at the last Belgian port, and they arrived together at Ujiji, both suffering from fever.

Lake Tanganyika is not one of the safest waterways in the world. Sudden storms sweep down through the rifts between the hills surrounding it and lash its waters into fury.

From Ujiji the route lay along the eastern shore of the lake, sometimes scaling high mountains, and sometimes wending along the

shingle of the beach. The fever from which Mr Grogan was suffering increased in severity, laying him prostrate for days ; but at last he gathered sufficient strength to undertake the journey up the valley of the Rusisi to Lake Kivu, another of Africa's large and beautiful inland seas. The frontier between German East Africa and the Congo State lies alongside this route, and is guarded from invasions of the unsettled natives on the Belgian side by a line of German forts.

Lake Kivu lies in an immense hollow between ranges of lofty highlands, and discharges its waters by means of the Rusisi into Lake Tanganyika. The country about the lake is occupied by the Ruanda people, a tribe so numerous and powerful that slave-raiding Arabs were obliged to leave them in peace. They are in the main prosperous, happy, and industrious.

In spite of this, however, their honesty is exceedingly doubtful, as Mr Grogan learned to his cost. One night they stole from his camp a number of valuable instruments, a quantity of his own clothing, and a bag of sovereigns. Being unable to obtain redress he took a very strong line of action, placing one of the most powerful chiefs under guard and driving off a large herd of cattle in the teeth of an angry mob of armed warriors. The next day Mr Sharp took the cattle down to the German fort at the southern end of the lake ;

but whether the stolen goods were recovered by this method the traveller does not say.

A direct result of this incident was the suspicion with which the actions of the expedition were watched by the people as it proceeded on its way. The inhabitants of the villages, taking to the hills, refused to come down to sell provisions, and some time passed before friendly relations were again established.

The expedition now traversed a most beautiful country leading by the side of the lake into the volcanic region to the north—a region in the direct route to Lake Albert Edward. The waters of Albert Edward Nyanza are discharged by the Semliki into the Albert Nyanza ('Nyanza' and 'Nyasa' both mean 'lake'), and the Albert Lake overflows into the Victoria Nile, sweeping northward from the Victoria Nyanza.

There was a broad strip of previously unexplored country to be traversed before the valley of the Semliki was reached. The volcanic region, almost exactly over the equator, forms a barrier between Lakes Kivu and Albert-Edward, separating the waters that flow to the Nile from those that make their way into the reservoirs of the Congo.

Mr Grogan's word-picture of the beauty of Lake Kivu, as he looked southward over it and the busy fertile plains to the east, is in pleasant

contrast to the grim descriptions of travel in less favoured parts of the continent.

Mr Grogan found there were six distinct volcanoes, the two westernmost being active. Since it was necessary to give some name to these natural objects, he made inquiries from the natives, but could not discover any well-known and general title, most of the people giving a different name from that given by any of the others—usually rather a description than a name. He therefore gave names as appropriate as possible, calling the highest peak Mount Götzen after the German traveller who first ascended it, and who discovered Lake Kivu.

This immense mountain, probably about ten thousand feet in height, contains three craters, and is clothed with forest almost to the top. That there is still a terrible volcanic power in this region is shown by the fact that between Count Götzen's visit and that of Mr Grogan, a vast crater had been opened to the north-west of Mount Götzen, and a great volcano thrown up. This was named Mount Sharp, after Mr Grogan's companion.

The extinct volcanoes were higher than those which were active, one, which Mr Grogan named Mount Eyres, having an altitude of over thirteen thousand feet. Between this mountain and Mount Götzen the company advanced, not only driving

along the animals upon which it had to depend for much of the food needed, but also carrying a supply of water, since the valley was reported by the natives to be waterless.

The district they were leaving, that between Lake Kivu and the volcanoes, Mr Grogan considers the most fertile, the most densely populated, and the most prosperous he has seen in Africa. Bananas, peas, beans, and millet are grown, hundreds of people working in the well-cultivated fields and gardens.

Mr Grogan was very anxious to enjoy a little elephant hunting, and with this intention proceeded, after several unsuccessful attempts, into the country to the west of the mountains—part of the Congo Free State. He was, however, very glad and very fortunate to escape from the country with his life, as a race of cannibals from the west had descended upon the peaceful agricultural inhabitants, burning their villages, destroying their crops, and, most terrible of all, killing and cooking and eating all upon whom they could lay hands.

In some of the ruined villages Mr Grogan came upon revolting proofs of their inhuman practices; and so ill did the sight make the traveller and his small band of followers—for he had separated from Mr Sharp and the main caravan—that many, though half-starving, could not eat any of the food found in and about the houses.

Before he could get clear of the devastated country—a country which is supposed to be effectively governed by the Belgian officials of the Congo State—the explorer had several brushes with the cannibals, being compelled to shoot some in order to stop their attacks. At night he had strict and vigilant guard kept, lest the camp should be rushed, resting till morning in well-hidden places.

Besides the cannibals, Mr Grogan saw many pigmies, those strange little people, so wondrously strong and so marvellously fleet of foot, whom Stanley was the first to describe.

The first part of the march to the Albert Nyanza was difficult and not very interesting, but at last Uganda was reached—that most interesting native African state, now under the protection of Britain, where the Roman Catholic and the Protestant forms of the Christian Faith have had such astonishing success. Here Mr Sharp left the expedition, returning to the coast by means of the railway which has been constructed from Mombasa to the inland kingdom.

Passing to the east of the mighty Ruwenzori Mountains, the traveller pushed on to the country of Unyoro by way of the valley of the Semliki. Almost countless herds of elephants were seen, several animals falling to Mr Grogan's gun, while

strange naked races were met with, one tribe, though living on a plateau ten thousand feet above sea-level, where the nights are bitterly cold, not donning a garment of any sort. Crocodiles, hippopotami, deer and antelope of various kinds, with an assortment of apes, form some of the fauna of these remote regions. The natives are usually most suspicious of a stranger, especially if he has a numerous following, often taking to the bush or to the hills with all their belongings at the first hint of his coming, and thereby making it extremely difficult for him to purchase provisions for himself and his company.

Many natives living round these great lakes are expert fishermen, trading their fish and salt for the beans and millet of other tribes. Some of their canoes are simply dug-outs made from the trunks of big trees, but on Lake Albert Edward the canoes are constructed of boards cut from the tree-trunk by means of axes, and sewn together with banana fibre.

Mr Grogan speaks in his book, *From the Cape to Cairo*, in the most lurid terms of the terrible misrule in the Congo Free State, through the eastern portion of which one section of his route passed, and of the cruelties practised by Belgian officials upon the helpless people. He speaks of districts deserted, of fields uncultivated, of people

living in terror in forests and marshes, afraid almost of their own shadows.

When about to proceed along the eastern side of the Albert Lake a chief entreated him with tears not to go, telling him that all the people were dead. Mr Grogan nevertheless went forward, finding much destitution, but not quite so bad a state of things as had been reported.

Getting northward by the side of the lake was a matter of difficulty, since the hills came down so close to the shore that only a narrow strip of beach was left, and the headlands had to be rounded in crazy dug-out canoes.

Reaching at length the town of Wadelai in the Uganda Protectorate, he met once more with a fellow-countryman, and spent some time hunting with him in the surrounding country, shooting such big game as elephant, buffalo, and rhinoceros.

Leaving Wadelai with its Waganda soldiers and boatmen, Mr Grogan set off downstream, following the Nile, passing through desolate stretches of weed and water swarming with hippopotami. This mode of progress was varied by land marches with porters in order to avoid undesirable reaches of the river. Mr Grogan found the Belgian officials on the west bank to all appearance more up-to-date and progressive than the British on the east bank, while they had a better supply of steamers and whaleboats. The British, however, enjoy

the confidence of the natives, who are coming in greater and greater numbers to live near the bank of the river, from which they were driven by the fierce Dervishes of the Soudan ; while the natives on the Belgian side remove farther and farther to the west, to be out of the reach of food-seeking bands of Congolese native soldiers—many of them recruited from cannibal tribes.

Mr Grogan and his companions suffered nightly torments from mosquitoes, which came in clouds at sunset, thirsting for their blood. Some of the Dinkas cover their bodies with wood-ashes to keep these pests from their skin.

Leaving what might be called the main stream of the river, Mr Grogan travelled through Dinka Land into Nuer Land. The river is obstructed by vast masses of 'sudd' (weed matted together in patches many square miles in area), through which both Belgians and British were endeavouring to cut a practicable channel, spending weary months without ever sleeping on land, surrounded by wide shallow lagoons choked with dense masses of weed, full of crocodiles and hippopotami, and affording breeding-grounds for myriads of mosquitoes.

Through the swamps, over the wide-spreading arms of the river, wading sometimes neck-deep, the traveller proceeded with his company, reduced now to fourteen. The country supported a

quantity of cattle owned by a dense population of Dinkas—big fellows, often six feet six or six feet seven in height, their naked bodies shapely and vigorous. The Dinkas have a habit of standing on one leg with the other foot supported on the knee, like huge marsh-birds.

Mr Grogan had one serious affray with these natives, though some of them proved very friendly. Like the Nuers to the north of them they spit at those they most highly respect.

Immense numbers of elephants were seen—indeed, they had sometimes to be stoned from the path.

Day after day the little party traversed the dreary swamps of the Upper Nile, fever-stricken, weary, and almost hopeless. Some of the men had been wounded in the fight with the Dinkas, and one walked with difficulty and pain owing to a swollen foot.

After plodding on over this dreadful country till he felt that its sameness would unseat his reason, Mr Grogan came quite unexpectedly upon the camp of a medical officer attached to a sudd-cutting party with a Nile boat and a British gun-boat. His delight may be imagined when it is remembered that, although he knew that Khartoum had fallen, he knew nothing of the death of the Khalifa and the dispersal of his forces. He had expected to travel through a country under

Dervish dominance, with the constant danger of stumbling into a Dervish camp.

The commander of the British party offered him a passage to Khartoum, which was thankfully accepted. At Fashoda, famed as the meeting-place of Major Marchand and General Kitchener, a meeting which almost brought about a war between France and Great Britain, Mr Grogan received his first letter for eighteen months.

At Omdurman he was fêted as the first man of British race who had traversed Africa from south to north.

By railway and steamer Cairo was reached and the journey finally accomplished.

Many things have happened in Africa in the few years which have since elapsed. The Cape to Cairo Railway has advanced hundreds of miles. The Zambesi has been spanned by a wonderful bridge, across which passengers are carried almost through the spray of the Victoria Falls, while the sudd has been compelled to give passage to a service of Nile steamers, placing Uganda in close touch with Egypt.

Mr Grogan's journey will nevertheless stand for all time as a marvellous performance, worthy of one of the imperial race to whose hands the destiny of so large a portion of Africa and of so many millions of her people has been committed.

VI. Commander Robert Edwin Peary

IN considering the story of exploration, it is curious and interesting to notice the motives that led the earliest explorers to attempt what was always difficult and often very dangerous work. The examination of these earlier efforts sometimes gives a partial answer to the frequent question: 'What is the good of exploration?'

The explorer himself cannot always say definitely what use his discoveries will be to the world in general; often enough he thinks little of the utility of his effort—he is led onward by the burning wish to tread where never man—or, where never civilised man—has planted his foot. The first lone trapper who burst from the forest-lands into the wide prairies of North America had no thought of the millions for whom that rich virgin soil was to be an almost inexhaustible granary. It is possible that he would have viewed with anger and dismay the turning of the wilderness into corn-fields from which the wild things whose skins it was his business to collect and sell would necessarily be driven.

. So, when people ask what is the use of Arctic and Antarctic exploration, we can fairly say it will be much easier to answer that question fifty or a hundred years after this.

There are perhaps four main influences which have led men to risk their lives, and to go through infinite discomfort, hardship, and privation, in order to discover new lands or seas or races. The first is the necessity which faces all thriving, energetic nations—the finding of markets for their produce. This led to the remarkable outburst of maritime exploration which marked the fifteenth and sixteenth centuries. The voyages of Bartholomew Diaz, of Vasco da Gama, of Columbus, and of the Cabots, were all undertaken with the object of finding a sea-route to India. The attempts to find a north-west passage round America, and a north-east passage round Europe and Asia, were made with the same object in view. To the search for profitable markets has been due much of the exploration of Africa, of Asia, and of the South Pacific Ocean.

The second determining cause of exploration is the severity of the struggle for existence. Inhabitants of densely-populated lands overflow naturally into lands more sparsely tenanted. The world has witnessed many movements of this kind, sometimes on a vast scale, when a whole race has migrated, and sometimes by the process

of gradual colonisation, such as is going on at present in Africa, Australia, and America, where people of European race are occupying lands in other continents. In these cases the pioneers are the true explorers, venturing into unknown wilds in search of a place where they can make a new home for themselves and their children, or discover natural wealth, such as deposits of precious stones and minerals, to which they can lay claim.

Another incentive to exploration—an incentive which can hardly be called the third, for it often precedes those previously mentioned—is missionary zeal. To this burning desire to teach the tenets of the Christian faith to unbelievers the world has been indebted for some of her grandest explorers. Huc and Gabet in Tibet, Livingstone in Africa, leap to the memory at once; but scores of brave and patient men and women have ventured into regions far beyond the reach of civilisation, spending their lives in their noble work, and often vastly increasing the world's knowledge of the lands in which they have laboured.

In modern days the chief motive of exploring expeditions has been the thirst for knowledge. Governments, learned societies, and private persons have given large sums of money to pay for the equipment of parties which should conduct their investigations of new lands according to

scientific methods. Not only the land and its people must be subjected to searching inquiry, but also its plants and animals, its birds and insects, its climate, its soil, and its geological history. This is the age of scientific research ; and the modern explorer needs to be a highly-trained scientist.

The story of Arctic exploration is an interesting record of investigations carried on from a mixture of motives. In the earliest times the roving Norsemen discovered and settled in Iceland and Greenland, and pushed their search for desirable regions far down the western coast of the American continent. Accustomed at home to rigorous winters, the comparatively mild climate of Iceland attracted them in spite of its remoteness and its humidity, while even the snows of Greenland did not daunt them. They were genuine colonists, carrying with them into the wilderness the literature, arts, and primitive manufactures of a fairly advanced civilisation. Strangely enough, when Harold Fairhair landed in Iceland, he found a monastery built and inhabited by monks of the Irish church.

During the next few hundred years Greenland was a colony of considerable size and importance, its colonists crossing from Iceland ; but, owing to the gradual increase in the severity of the climate, the pushing southward of the polar ice between the two countries, and the attacks of the

Esquimaux, these formerly thriving communities perished.

It is a remarkable fact, however, that, when Commander Peary visited the *north* coast of Greenland in 1892, he discovered there a district with flowers and grass, birds and bees and herds of musk-oxen—an oasis at the northern end of an ice-capped land.

Sir Frederick L. M'Clintock, too, in speaking of the deserted villages on the east coast of Greenland, is full of regret that at a time when the climate seems again to be moderating, the people who were our nearest neighbours in the New World—only one thousand miles from Scotland—should have died out.

In speaking of Commander Peary we are reminded that in all ages there has been another force which has driven men to the performance of tasks of tremendous difficulty in the exploration of unknown lands, and, indeed, to the accomplishment of worthy deeds in all departments of life. This is the setting up of some ideal—some great end the reaching of which is all but impossible, and the conscious bending of the whole energy of body and mind to its attainment.

The reaching of the North Pole has been to many men the final goal of their ambition: with that purpose in view they have undergone hardships, privation, and danger to be met with in no

other part of the world—not even round the South Pole—they have left home and kindred and comfort for weary months and often for years, choosing deliberately the Arctic desert, with its long night, its awful cold, its maddening monotony, and its almost unimaginable discomforts.

It will perhaps be interesting, in following the story of Commander Peary's life, to try to detect the beginning of this consuming fever, as it has been called, which laid so strong a hold upon his life that, after twenty-three years of almost continuous effort, only the attainment of his ideal—only the triumphant planting of the flag of his nation on that mathematical spot which is exactly ninety degrees north of the equator—could free him from its imperious calling.

He was not by any means the first in the field. Men of various nations had sought to win the same dazzling prize—men of various nations had fallen by the way, leaving their bones in the unkindly Arctic wilderness or deep in its icy seas.

An American had once before held the northern record. Lieutenant James B. Lockwood, a member of Greely's ill-fated expedition, had in 1882, while exploring part of the northern coast of Greenland, pushed north to the latitude of 83° 24' North, thus beating the British best attained by Markham in 1876. This record,

however, was beaten by Norwegians under Nansen in 1895, and by Italians under Cagni in 1900. Long before this, Peary had entered the field, winning in the end the coveted victory for the United States.

Commander Robert Edwin Peary was born in 1856 at Cresson Springs in Pennsylvania, and entered the American Navy in 1881. He was afterwards employed as Assistant-Engineer in connection with the United States Government Surveys for the Nicaraguan Canal.

Nicaragua, as perhaps you know, is one of those Central American republics which were formerly Spanish colonies. The width of the New World decreases in the middle to a comparatively narrow isthmus connecting North and South America; and it has always seemed to mariners and merchants that the cutting of a canal through this isthmus would be of immense advantage to vessels trading between the Atlantic and the Pacific. To the people of the United States, with a young and vigorous rival and possible enemy in the Pacific Ocean, it is rapidly becoming a vital matter that the ships of the American Navy shall be able to cross easily and quickly from ocean to ocean.

There are two places where, more easily than at any others, such a canal might be cut. These are the routes through Nicaragua and through Panama,

each of which has its advantages—though within recent years the United States Government has decided to hold the Nicaraguan scheme in abeyance and push on with the canal across the Isthmus of Panama.

In this land of volcanoes, the Indian name for which means the land that swings to and fro, Robert Peary was engaged in work for his government during a great part of the years 1885 and 1886; and it is noteworthy that from this tropical region, with its swamps, its mahogany-forests, its coffee-plantations and gold-mines, Peary went in 1886 on his first excursion to Greenland. If an entire change of climate and scenery is good for health, he must have benefited very considerably by the change.

As we shall have much to say concerning Greenland later on, it may perhaps be as well to describe at once where it is, and something of its climate and history. We often forget, in talking of Greenland, what a very extensive country it is. We are inclined to think of it as altogether a far northern land, while in reality its southernmost point, Cape Farewell, is as far south as St. Petersburg or Christiania. That is to say, nearly the whole of Norway and Sweden, and part of Russia, are as far from the equator as a large part of Greenland.

On the other hand, Greenland reaches much

farther towards the pole, stretching its frozen length through more than fifteen hundred miles. The coast is in general rugged and barren, unscalable cliffs rising in places to a great height above the sea. You must not, however, imagine that the country is altogether unattractive. In some places the coast rivals in beauty and grandeur that of Norway: deep, winding fiords run far into the land; vast glaciers slide down its valleys to the surrounding seas; gloomy gorges and lofty mountains alternate in frowning majesty; while many parts are fringed with picturesque islands.

Very little was known of the interior when Peary ventured into it from Jakobshavn, a little place on the western coast about two hundred miles north of the Arctic Circle. He had with him only one companion; and he refers to his expedition as to a summer excursion and a spying-out of the land, and the conditions of life and travel in it.

It was reading about the attempts of Professor Adolf Erik Nordenskiöld to cross Greenland from near Disco Island, which lies off the west coast not far from Jakobshavn, that first filled Peary with the desire to visit the ice-capped land.

Nordenskiöld was already a veteran Arctic traveller. He had explored much of the far northern land of Spitzbergen; his discovery of the north-east route between Norway and Siberia had

been followed by the opening of a prosperous trade, and thirteen years previous to the venture of which Peary read with such interest he had made a gallant attempt to traverse Greenland from the one side to the other.

The expedition of 1883, though unsuccessful in its main object, was not without very important scientific results. Nordenskiöld, who was a competent geologist and naturalist, found out much of considerable interest concerning the past and present life of the country.

You will hardly believe that once upon a time Greenland had forests of such trees as poplars, limes, walnuts, maples, and magnolias, while the ground was carpeted with grass and wild flowers. Such, however, was proved to be the case by Mr Edward Whymper, who, in 1867, collected fossil remains of all these plants and trees and many more, at no great distance from Jakobshavn.

Two years after Peary's summer visit Greenland was crossed from east to west by Dr Nansen, with three Norsemen and two Laplanders. Where it was possible they travelled on *ski*, long Norwegian snow-runners, a sort of cross between skates and snow-shoes, upon which, unless they had to draw the sledges, they could travel very quickly. Entering the country at a point on the west coast about as far north as Bergen in Norway, the

crossed its glacier-covered surface to a point a little south of Godthaab on the west coast.

Nansen's descriptions of the difficulties of the route, given in his book, *The First Crossing of Greenland*, make thrilling reading. He found the interior to be a plateau rising to the height of ten thousand feet above sea-level, and flat as a floor. At this altitude the cold was intense, the thermometer recording 90° below freezing-point.

After his northern trip, Peary went back to Nicaragua, acting as assistant engineer on the Nicaraguan Ship Canal. In 1888 he was appointed Superintending Engineer of the United States Navy Dry Dock, at League Island.

But the call of the North was ever in his heart, and in 1891 he was able once more to sail away from civilisation towards the homes of the primitive Esquimaux. On this occasion his wife was daring enough to accompany him. The passage through Davis Strait into Baffin Bay was safely accomplished; but while the *Kite*, the vessel upon which the members of the expedition were embarked, was driving through the broken pieces of ice with which the surface of Melville Bay was covered, one of them struck the rudder, swinging the tiller against Peary's leg, and pinning it against the wheel-house, snapping the bone between the knee and the ankle.

Never was the doggedness of Peary's character

more finely shown than in his determination not to allow even so serious an accident to prevent him from carrying out the work he had planned. His object was to reach and explore the northern coast of Greenland; and he insisted upon being landed with the rest of the expedition upon the coast at McCormick Bay. Here the party built a house and passed the winter.

There is one striking contrast between the north polar region and the south of which you must not lose sight. You will remember that one of the main hindrances to exploration in the Antarctic has been the absence of all inhabitants, and of animal life upon which to draw for fresh food; but in Arctic lands animal life is found in abundance. The seas swarm with fish, upon which the seals and the walruses depend for a living. Huge whales, yielding tons of flesh and blubber, abound in the icy waters. The big white bear prowls over ice-floe, berg, and glacier, pouncing upon unwary seal or fish, and occasionally affording to the explorer a welcome addition, in the shape of bear's flesh, to his food supplies.

Herd of reindeer and musk-oxen live even farther north than the snow-igloos of the hardy Esquimaux, while Arctic hares and foxes are found in very high latitudes, to say nothing of the flocks of aquatic birds that build in the cliffs and rocky islands.

Thus, while the lands round the South Pole are uninhabitable, those round the North Pole support the peculiar race of which mention has already been made—the Esquimaux.

The Esquimaux or Eskimos, inhabit the American and Asiatic shores of the Arctic Ocean, and many of the islands lying between those shores and the North Pole. They do not appear to be allied to any other race, and they have a language peculiarly their own. Some Arctic explorers have had trouble with them, but others have found them helpful and friendly. Commander Peary has for years cultivated their friendship and studied their mode of living, hoping to make use of both in his conquest of the world's northernmost point.

You would find it difficult to distinguish an Esquimaux man from his wife—except perhaps through the shorter and slighter build of the woman—for both sexes dress alike, in the skins of animals, chiefly the fur-seal, with the fur turned inward. They are strongly-made people, with broad shoulders and deep chests; and, although usually shorter than Europeans, some of the men grow to the height of six feet.

You can readily understand that when the temperature remains steadily day after day far below zero in the dark Arctic winter, there will be little temptation to take any kind of bath,

even if such a luxury were obtainable ; but even in the summer months the Esquimaux do not seem to think it necessary to cleanse their skin—a wipe round the nose and chin with anything soft and dry completing their toilet.

The explorers themselves do not manage much better. When Nansen and Johansen won back to Franz Josef Land after their northward dash over the ice from the *Fram*, their faces were almost black with dirt, though they had scraped them as clean as possible—but they had been out of reach of soap for fifteen months.

The Esquimaux live almost entirely on a diet of flesh. They are not at all particular, either, as to whether it is cooked or not—a young Esquimaux sucks at a lump of raw seal blubber with as much enjoyment as you would obtain from the daintiest bonbon.

They are very clever at making the clothes, weapons, tools, and boats which they require. Their boats, or 'kayaks,' as they are called, are just the things needed in hunting seal or walrus over the moving ice-floes. They are made of skins cleverly sewn together and stretched over a light wooden framework, very awkward to handle, but so light that the hunter can lift his boat out of the water and carry it with him across the ice to a more promising 'lead,' or lane of open water.

That they do not lack courage is shown by their

method of hunting the formidable Polar bear. The Esquimaux of the north have no bows, and therefore attack the fierce animal with spears, their own lives paying the forfeit if they fail to strike a decisive blow.

Among these interesting Innuits, or 'dwellers in the night,' as the French call them, Peary spent the winter of 1891-92, getting to know them intimately, and gradually winning their confidence and affection.

The broken leg mended well : and in May, 1892, he set off with Eivind Astrup on a sledge journey across the north of Greenland. Over the surface of the ice-cap, now soft and heavy through recently-fallen snow, for fifty-seven days the travellers pushed on. They succeeded in reaching the channel which, on the north-east, separates Hazen Land from the mainland of Greenland.

Here, strangely enough, the ice-cap came to an end, leaving the Arctic oasis of which mention has been made. Four more days of toil brought them on the 4th of July to Independence Bay, from the mighty cliffs of which they looked across to Academy Land beyond. Poppies and dandelions cheered their eyes, long tired of gazing at snow-covered slopes and plateaus ; a herd of musk-oxen roamed in the valley behind them, and bees flew humming from flower to flower.

Although first upon this particular point of land, Peary was by no means first upon the northern coast of Greenland. As early as 1853, Dr Elisha Kent Kane, when in command of a party sent out in the brig *Advance* to assist in the search for Sir John Franklin, sailed into the sea which now bears his name, and while exploring its coasts sent out expeditions in various directions. One of these parties discovered the Humboldt Glacier in North Greenland. Dr Kane believed that this glacier stretched like a bridge from Greenland to Grinnell Land.

Dr Hayes was the next to throw some light upon the problems of this ice-bound country and of the channel of varying width which seemed to lead past its western coast to an open polar sea; but it was Captain Hall, of Cincinnati—another American—who finally, in the *Polaris*, won through Kane Sea, Kennedy Channel, and Robeson Channel to the ice of the sea beyond. On the 30th of August, 1871, his ship reached the latitude of 82° 16' North, nearer the pole than any vessel before his time.

The Americans, however, did not hold the record very long, for in 1875 a British expedition to the North Pole, under the command of Sir George Nares, and including such men as Commander Markham, Lieutenant Aldrich, Lieutenant Beaumont, and others who have done notable Arctic

work, set out from Portsmouth in the *Discovery* and the *Alert* to reach the North Pole.

They did not succeed in their main object, but the *Alert* reached a latitude of $82^{\circ} 27'$ North, before she was compelled to lie up for the winter. The most useful results were, however, obtained from the sending out of sledging parties. Five of these expeditions set off in different directions, that led by Commander Markham reaching a latitude of $83^{\circ} 20' 26''$ North, thus creating a new record.

It was, however, the sledging party under Lieutenant Beaumont which explored the north coast of Greenland. He attained his farthest east on the 21st of May; but he would probably have paid with his life for his perseverance and enterprise had he not, eleven days before, sent back a section of his command for a relief party. When help reached him, he and two of his men were plodding westward, dragging behind them a sledge with the other four men fastened upon it. They had succumbed to scurvy, that terrible foe of Arctic explorers.

Markham's record was beaten in 1882 by Lieutenant Lockwood, a member of the Greely expedition. This expedition, every member of which was a soldier, was sent out by the United States Government to form one of a ring of parties of observation which the Great Powers had agreed to send into the Arctic regions.



Photo: Thomson, London.

P.T.

Commander Robert Edwin Peary.

Spending the winter in the harbour which had sheltered the *Discovery*, Major Greely despatched in the spring two expeditions, one to reach the pole, and the other to explore the coast of Greenland. The attempt to reach the pole was a failure, Markham's record not being beaten by it; but Lockwood had more success. Section by section his party was sent back till only himself, another American, and an Eskimo remained; but these three plodded on till finally reaching a latitude of $83^{\circ} 24'$, America thus securing the record of farthest north.

The end of Greely's expedition was perhaps the saddest of all polar experiences. Several attempts were made, in accordance with the plan laid down at the outset, to get a relief ship through to the place where he was stationed; but it was not until June 1884 that he was reached. Only seven men were alive, the major among them—the rest, except one man, had perished of exposure and starvation. This one man had been shot by Major Greely's orders for stealing sealskin thongs, the only remaining food.

Though Peary did not on this first sledging trip attempt to beat Lockwood's record, he added, by his journey of one thousand two hundred miles across the ice-cap of Greenland, very considerably to our knowledge of the interior of the country,

and proved to his satisfaction that Greenland is an island.

Her thirteen months' sojourn in the Icy North does not seem to have been sufficient to deter Mrs Peary from making a second and longer stay. In 1893 she again accompanied her husband to Greenland ; and in March, 1894, their daughter was born in the house they had built at Bowdoin Bay.

The expedition lasted altogether about twenty-five months, during which Peary made another sledge journey to Independence Bay, though he had much greater difficulty than before in accomplishing the task he had set himself and his companions.

You will perhaps have noticed that sledge journeys were usually undertaken in the late spring and early summer. For this there were two reasons—travelling in the darkness of winter, without a glimpse of the sun for observations, is exceedingly risky work, and the extreme cold makes some sort of habitation indispensable.

Peary, however, ventured on a winter sledge journey during his four years' stay in the Arctic, from 1898 to 1902. He had made summer voyages during 1896 and 1897, discovering, among other interesting things, a number of meteorites about Cape York. Meteorites or aerolites, as they are sometimes called, are masses of

metal or stone which fall through the air from space. Other names are, 'shooting stars' and 'thunderbolts.' Some remarkable meteorites have fallen upon the earth. One which fell in Brazil weighed over six tons; another, of almost pure iron, fell in the Punjab and was made into a sword for the Emperor of India. These, however, fell singly; while at Cape York Peary discovered quite a collection of them.

The winter sledge journey nearly proved the end of the adventurous traveller's performances. He had explored Grinnell Land and its continuation, Ellesmere Land, and had then decided to make a dash for the pole along Lockwood's track. This was, perhaps, one of the most fruitful of all his expeditions. He succeeded in rounding the north of the Greenland Archipelago from west to east, making most important observations regarding the vegetable and animal life of the country; and then, with seven men and six dog-sledges he struck northward, reaching the latitude of $84^{\circ} 17'$.

On this journey his feet were so badly frost-bitten that he lost eight of his toes. Mr George Borup, who accompanied him upon his last expedition, gives a humorous account of the way in which the men attempt to defeat the attacks of the frost-fiend, telling of an Esquimau and one of the travellers sitting on each other's feet

and thawing their noses with the palms of their hands ; but frost-bite is no joke. One of the poor fellows rescued with Major Greely had lost both hands and feet, and was found by the rescuers trying to feed himself by means of a spoon fastened to the stump of his right arm.

It will be evident that even a small Arctic expedition is a very costly matter. A ship has to be bought or chartered, a proper equipment must be supplied, and provision must be made for a possible lengthy stay far from the resources of civilisation. Commander Peary tells us that he spent all his own money in his successive northern journeys ; but such funds as he could supply would have been quite insufficient for a stay of four years of active investigation.

Peary's discoveries, however, had raised such an amount of interest in America that a Peary Arctic Club was formed of influential and wealthy citizens, the President being Mr Morris K. Jesup, after whom Peary has named the northernmost point of land in the world. This club saw to the raising of funds, and so took a weight of anxiety off the explorer's shoulders.

During these years important events had happened in the Arctic. The Norwegian expedition in the *Fram*, under Dr Fridtjof Nansen, had completed its long drift in the grip of the pack-ice, reaching the latitude of $85^{\circ} 57'$; only

a little to the south of the latitude reached by Nansen and Johansen in their sledge journey from the ship— $86^{\circ} 14'$ North. This was in 1896.

The record was not, however, allowed to remain with the Norwegians. An Arctic expedition under the Duke of the Abruzzi set out in 1899 from Archangel to Spitzbergen, wintering there in Teplitz Bay. The Duke was so unfortunate as to lose two of his fingers through frost-bite, and was compelled to remain on board the *Stella Polare*, while Captain Umberto Cagni started with sledges to try to reach the North Pole. This he did not succeed in doing; but he created a new record by reaching the latitude of $86^{\circ} 34'$ —a triumph for Italy; for Cagni and the three men who remained with him at the turning-point were all Italians.

There is not space to mention in detail each of Peary's northward dashes; but his attempt of 1905 deserves attention, because of the passing of the Italian record in the face of the greatest difficulties.

Great results were expected from this expedition. A special vessel, the *Roosevelt*, was designed and built; and Commander Peary's long experience enabled him to fit her with every possible requisite. He had cultivated such friendly relations with the Esquimaux living at Etah,

at the entrance to Kane Sea, that he could confidently count upon their help.

The *Roosevelt* is a steamer of about six hundred tons burden, and has engines of over one thousand horse-power. Should her engines break down, or fuel run out, she could be handled as a sailing-ship. Her wooden sides are thirty inches thick, and her frame is enormously strong. Her bow is solid for twelve feet; so that she can force her way through ice that would stop even a whaler.

Coaling at Etah from her tender, the *Eric*, she proceeded often with some difficulty and damage, to the old winter-quarters of the *Alert*, or a little farther north. At Etah Peary had taken aboard fifty Esquimaux—men, women, and children—and two hundred Esquimau dogs.

The Esquimau dogs are savage and wolfish, resembling in size and shape the gray wolf of Northern Canada; but without them long sledge journeys would be impossible. In the summer, when sledges cannot be used, they are driven off to forage for themselves; but in the winter they share with their masters in food and work. The Esquimaux are not indulgent masters, often treating the dogs cruelly, and driving them on with the whip when they are plainly exhausted. When food runs short, the weaker dogs are killed and given as food to the others.

The amount of animal life in these northerly latitudes may be imagined from consideration of the butcher-bill of the expedition. Besides hares and reindeer, two hundred and fifty musk-oxen had been shot by November!

We have seen that the death of many of his Manchurian ponies, more than anything else, prevented Shackleton's conquest of the South Pole; and Peary's attempt of 1906 to reach the North Pole was made more difficult by the death of over eighty of his dogs during the winter.

Peary's plan, followed with complete success in his latest expedition, was to make stations about fifty miles apart on the northward road over the ice. At each station snow-houses were built, and certain members of the party were turned back. Supplies were taken by sledge from the base to the first station, and then from station to station, the dog-sledges working backwards and forwards between the stations, going northward with supplies and running back empty. You can now see why so many Esquimaux and dogs were necessary if the expedition was to be successful, and why the death of so many dogs during the winter was so serious a blow.

The greatest obstacles to progress in such an undertaking are open channels across the track, and long stretches of hummocky ice, like that across which Markham and his men had to

travel. On this occasion—the attempt in 1906—Peary was stopped for six days by an open lead, and compelled to wait till the surface was sufficiently frozen for the ice to bear the weight of men and sledges.

Farther on he was swept seventy miles out of his course by a westerly gale, which blew with extreme force for nearly a week. When his company had dwindled down to himself, his negro servant Matthew Henson, and a few Esquimaux, he was stopped by impassable reaches of open water in latitude $87^{\circ} 6'$, and had to return.

It is remarkable that Cagni, whose record he had thus beaten, was stopped from proceeding farther to the north by precisely the same conditions. Many people expressed their belief that the ice of the polar sea was crossed by frequent channels, making it impossible to reach the pole by dog-sledge. So impossible, indeed, did it seem to some that the pole could ever be reached by sledge or ship that expeditions were set afoot to get there by balloon or airship. So came about the disastrous expedition of Andrée in 1897. From Spitzbergen the aeronaut started with two companions in the car of a big balloon, and they have never since been seen, though buoys with despatches have been picked up, and a carrier-pigeon reached home with a message dated 13th July—two days after he had started.

The Wellmann attempts to reach the pole by airship have not yet been successful.

Peary was much disheartened by his failure of 1906. The whole expedition had been so admirably planned, and success had seemed so certain, that the acute disappointment was hard to bear. He felt for the time as though the efforts of nearly twenty years were but to result in the making of another useless record of farthest north. He felt that he was growing too old for the arduous work of polar exploration; and he knew that his wife's anxiety for his safety increased rather than diminished with each succeeding attempt. Yet, by the time he had again reached home, he was planning his next expedition. He was certain that he had evolved from his wide experience the only way in which the task might be accomplished—that of proceeding from station to station; the long, desperate rush was foredoomed to failure.

The station-to-station plan, however, is exceedingly expensive. It needs a small army of men and a large pack of dogs; and the maintenance of such a force in the Arctic wilds is most costly. His enlisting of the men of Etah in his service was a stroke of genius—but these men must be fed and paid.

So, you see, the chief impediment to his setting out on another northward trek was the difficulty

of raising the necessary funds. The *Roosevelt* had been much damaged and needed extensive repairs, new boilers amongst other things.

At last, by the generosity of Mr Jesup and many other friends, sufficient was gathered and promised to justify setting about preparations. Luck, however, seemed against the explorer; the contractors who were to replace the boilers failed to finish their work in time, and so a year was lost, during which Mr Jesup died. For a time it looked as though the expedition would fall through; but after some months funds again began to flow in from those who believed in Peary and were interested in his work.

At last everything was ready, and the *Roosevelt* started from New York on 6th July, 1908, with about one hundred guests on board, including the President of the United States, after whom the ship was named. The vessel had been made most wonderfully comfortable for men and officers. There was even a pianola on board, and so much literature that tables, lockers, and bunks were full.

The last guests having departed, among them Mrs Peary and her daughter, to whom the Commander had promised that this should really be his final attempt to reach the North Pole, the *Roosevelt* took her coal on board and steamed north to Cape York, where she was welcomed by

the friendly Esquimaux, who came out to meet her in their kayaks.

The winter was spent in much the same location as that of 1905-6, and was devoted partly to meteorological observations and partly to the gathering together of the enormous amount of flesh food that would be required in the spring. You need hardly be reminded that in that climate the preservation of meat presents no difficulty.

On 1st March, 1909, the northward march was commenced from Cape Columbia, the first sledging-party having left the *Roosevelt* on 15th February. The seven members of the expedition who took part in this successful attempt to reach the goal for which so many had striven, deserve special mention. Matthew Henson must come first because of his almost lifelong devotion to his master, with whom he has braved not only the glaciers of Greenland, but also the swamps of Nicaragua; but the next place is of right given to Captain Bartlett—Captain 'Bob,' as they called him on the *Roosevelt*—who, having been born in Newfoundland, is a British subject. Then came Mr McMillan, Dr Goodsell, and Mr Borup, who had never before crossed the Arctic Circle, and Mr Marvin, who unhappily lost his life in crossing one of the leads. Lastly came Peary himself, the others acting with the pioneering

parties in beating out the track and setting up the stations.

Besides these seven there were seventeen Esquimaux, and one hundred and thirty-three dogs for the nineteen sledges, several of which were damaged and two completely smashed by rough ice on the first day's march.

On the second day Peary was stopped by a lead across which Bartlett and his pioneers had passed without difficulty; but at the end of the fourth day Bartlett himself was stopped by a broad channel which held up the whole party for seven days.

On 5th March they had their first glimpse of the sun. After getting started again they found the going rather better; but there were still wide leads at times, Borup and his dogs slipping into one of them. Across another they had to ferry themselves on cakes of ice, and round a third they were compelled to march a considerable distance out of their direct route.

Sometimes the surface of the ice was covered with a thick deposit of soft snow, which made the work of the pioneer party most tiring and exhausting.

The continual shifting of the cakes of ice which cover the sea makes travelling over the polar basin both difficult and dangerous. Sometimes without warning a big floe will split across, and the sections drift apart at a rapid pace; sometimes the floes

grind together and mount upon each other till they are piled in immense rugged masses. Dogs and men had often narrow escapes. Another unpleasant factor was the strong north wind, which not only distressed them on the march, but, by sweeping southward the ice over which they were travelling, also robbed them of many hard-earned miles of nothing.

Just before the eighty-eighth parallel was reached, Captain Bartlett, who was now the only white man with Commander Peary, was sent back in accordance with the plan already agreed upon. He had reached the farthest north ever attained by a British subject. He had done splendid service in the pioneering party, and Peary speaks of him in the very highest terms. It is pleasing, too, to know that Captain Bartlett speaks with admiration and affection of his leader, and says that he would be delighted to serve under him again.

One cannot help regretting that Peary did not find it possible to take such a brave man with him to share in the final triumph. Only Henson and four Esquimaux now remained with Peary; and he pushed on without delay, hoping to reach the pole in five forced marches. Little time was given to sleep. The going was good, but the air was bitter—even the hardy Esquimaux complained of the cold.

When at last the pole was reached, Peary could hardly grasp the fact that his long race was ended

—that the goal of his twenty-three years' effort was at length attained. Except for the evidence of his careful observations of the altitude of the sun, there was nothing to prove that he had reached the northern end of the earth's axis. A desolate sheet of ice stretched in every direction as far as the eye could see, without sign of land or anything to break its white monotony.

Building snow-shelters, they stayed for thirty hours at and about the pole, taking photographs and making observations, and deep-sea soundings; then the homeward march was commenced.

Everything was now in their favour. Wind and ice-drift helped them forward instead of retarding their progress; they were returning over a track already traversed, with shelter and supplies at frequent intervals; and it is not at all wonderful that they were able to accomplish in three days a distance which it had cost five days to win on the outward journey. Even the leads delayed them but little; and on April 23rd they reached Cape Columbia, having covered four hundred and twenty miles in sixteen days—an average rate of twenty-six miles a day!

The triumph of Peary's return to the *Roosevelt* was marred by the news of the death of Mr Marvin, of which he then heard for the first time. Marvin had fallen into the water at the big lead when returning, and had been drowned.

So, after three centuries of striving, the northernmost point on the earth's surface has been reached, and another of Nature's secrets has been yielded up to man's indomitable perseverance.

Commander Peary's success was, above everything, a triumph of good generalship. His long experience of the conditions of Arctic travel made it possible for him to provide for emergencies in a way never equalled by any other explorer.

The organisation of the supporting parties and relief-stations was practically perfect in every detail. The arduous pioneer-work—beating out the track—was done up to the 88th parallel by Captain Bartlett; so that Peary was comparatively fresh and unexhausted when he set out on the final stage of his long journey, taking with him the best of the Esquimaux and the pick of the dog-teams.

Many expeditions, well organised and well equipped, have failed to reach their goal because of persistent ill-luck for which no one could be held responsible; but throughout Peary's final and successful attempt to reach the North Pole, luck was with him almost from start to finish.

The weather conditions were remarkably favourable. The wind, though against him in his outward journey, was never so distressing as the terrible gale against which Shackleton and his companions had to struggle in their dash for the South Pole; and, during his return journey,